

Impact of Body Dissatisfaction and Selfies and The Effect of Self-Compassion:

A Mixed Methods Study

by

Amelia Jing Zhen Cheah

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Thesis Chair: Brian Kelley, Ph.D.

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Brian Kelley, Ph.D.,
Thesis Chair

Virginia Cashion, Ph.D.,
Committee Reader

Dedication

To my parents, friends, and my boyfriend. Without their support, none of this could have been possible.

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Abstract

Social media has become one of the most widely consumed platforms worldwide—specifically, the act of taking pictures of oneself otherwise known as selfies. Previous research has demonstrated links to body dissatisfaction and eating disorders about social media usage. There is a lack of research on the selfie-editing process, from taking to selecting and editing the pictures before uploading them. In turn, social media may become a risk factor for young individuals engaging in selfies and experiencing body dissatisfaction. Given how rapidly the use of social media has evolved within society, there is a constant need to address and overcome body image concerns among children and adults. Recent evidence indicates a rise in body image concerns during adolescence to early adulthood. Research is lacking in the aspect of understanding the impact on both genders. The current research will (a) examine the use and frequency of selfie editing, specifically photo-based behaviors like photo manipulation (PM) and photo investment (PI), (b) examine gender differences in photo-based behaviors and body dissatisfaction (BD), (c) investigate how self-compassion (SC) helps mitigate body image and photo-based behaviors, and (d) understanding the lived experiences of individuals who engaged in selfie editing behaviors and experience body dissatisfaction. Results from 111 individuals with men ($n = 34$) and women ($n = 77$) suggested that males and females engage more in photo-related behavior and body image concerns. However, females seem to engage more than males. Self-compassion also correlates with body dissatisfaction but only within females. Self-compassion is associated with higher levels of photo-based behavior; individuals with higher self-compassion are more likely to engage in photo-based behaviors. Future research should investigate which self-compassion practices are more effective in reducing body image concerns.

Keywords: photo manipulation, selfies, body dissatisfaction, body appreciation, social media, self-compassion

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Chapter 1: Introduction

According to Laricchia (2023), there has been an increase of 85% in the number of smartphone users. Approximately 53% of American children possess a smartphone by the age of 11, while about 84% of teenagers and 96% of young adults own one (Kamenetz, 2019; Laricchia, 2023; Pew Research Center, 2021b). Consequently, social media usage has recently increased significantly among adolescents and young adults. According to Dean (2023), nearly 99% of social media users access platforms through a mobile device. There are about 246 million social media users in the United States of America and about 235.1 million users aged 18 and above in January 2023 (Kemp, 2023). Aside from that, the use of social media by young adults has increased by up to 72% since 2005 (Pew Research Center, 2021a). This may be due to the ease of access to these social media platforms. Prominent social media platforms in the U.S. include YouTube, Facebook, Instagram, TikTok, and Snapchat, which can be easily accessed through computers, smartphones, and tablets (Kemp, 2023).

Social media is used so often that it has become the inevitable part of one's daily life. It offers a distinct contrast to traditional forms of media such as magazines, television, and newspapers. Social media platforms allow users to create public or private profiles, share pictures or activities online, engage with others through "likes" and comments, and meet and connect with other people (Gioia et al., 2020; Cohen et al., 2018). Most social media platforms are peer-generated whereby users can be recipients and active contributors of content (Gioia et al., 2020; Butkowski et al., 2019). However, because of the widespread use of social network sites, social media has evolved into a space where individuals engage in peer-to-peer comparisons. Individuals would portray idealized versions of their identities which has

contributed to problematic and unhealthy use of social network sites such as Body Dissatisfaction (BD) and Photo Manipulation (PM) (Gioia et al., 2020; Tiggemann et al., 2020c).

One of the most popular activities associated with social media use is selfie-sharing (Boursier et al., 2020). As a result, the behavior of taking pictures of themselves and sharing them on social media accounts has been conceptualized as an essential way of representing and providing an impression of oneself to others through engagement in appearance-related photo activities (Boursier et al., 2020; Cohen et al., 2018; Mills et al., 2018; Tiggemann et al., 2020b). Appearance-related photo activity may include editing and posting selfies and self-surveillance like checking the number of “likes” they received on a picture (Cohen et al., 2018; Fox & Rooney, 2015). This results in the development of dissatisfaction with oneself, specifically body image concerns, which may lead to maladaptive consequences both physically and mentally.

Recent research on Social Networking Sites (SNS) and body image has suggested that engaging in SNS can lead to a more negative body image, higher levels of self-objectification, and appearance comparisons (Cohen et al., 2017; Cohen et al., 2018; Tiggemann & Slater, 2017; Jarman et al., 2021). The application of the objectification theory plays a crucial role in understanding this phenomenon, as it describes how individuals may internalize societal body standards through a process called self-objectification (Cohen et al., 2018; Fardouly et al., 2017a). This process involves individuals evaluating their bodies based on how closely they believe an external observer would perceive them according to these societal standards. As a result, individuals may experience either satisfaction or dissatisfaction with their body image or their perceived alignment with these external standards (Fredrickson and Roberts, 1977 as cited in Boursier et al., 2020).

There is also empirical evidence of the negative outcomes of self-objectification. For instance, selfie objectification is associated with negative body surveillance and evaluation (Schettino et al., 2023; Felig & Goldenberg et al., 2023) and disordered eating (Cohen et al., 2018). Bell et al. (2018) discovered that individuals who constantly present themselves in objectified ways on SNS would receive more likes, therefore being one of the motivations for the frequency of posting objectified self-images. This finding is concerning as self-objectification can contribute to the development of a negative body image, potentially leading to the development of eating disorders and body-related concerns (Fardouly et al., 2018).

These dynamics are important to consider when promoting a healthier relationship with body image and overall well-being, particularly in young college adults who frequently engage with SNS. This aspect is central to the theme of this thesis project, which is to explore the impact of social media, specifically the process of manipulating selfies, on body image perceptions and the potential implications for mental health and well-being within young college students being studied.

Chapter 2: Literature Review

Media Exposure to Body Images

Impact of Mass Media

Before social media, mass media used to serve as a platform for both entertainment and business promotion, where beauty or physical feature-enhancing products were heavily advertised. For instance, portraying women with thin bodies to promote relevant products such as clothing, cars, and fragrances. Such a form of advertisement reinforces the idea that thin body types are the standard to be beautiful, and if people buy the products, they can be as beautiful as the models in the advertisement (Mills et al., 2018). In fact, since earlier times, mass media have

placed high importance on promoting thin body shapes as the ideal beauty standards and set standards for comparison (Möri et al., 2022). Often, individuals who start comparing themselves to the standards will experience psychological distress like body dissatisfaction (Möri et al., 2022). As a result, individuals may have a strong desire to achieve a thin or muscular body type, which in turn impacts the individual negatively in their daily functioning, like overexercising, limiting food intake, and even developing eating disorders. Groesz et al. (2002) examined mass media's impact on women's body image between 1983 and 1998 and found that there was indeed a negative relationship after individuals viewed thin media images compared to average-size media images. Such that individuals who view thin media images are likely to negatively compare themselves with the image which may cause some dissatisfaction with themselves. It is evident that even before the advancement of social media, body image concerns have been one of the top concerns for individuals, especially among those at the stage of identity formation (Groesz et al., 2002).

Impact of Social Media

The upward trend in social media usage may be attributed to the role of social media sites in helping young college adults express, develop, and explore their individuality and personal interests (Fox & Rooney, 2015). This is significant to adolescents and young college adults as they are undergoing identity formation and self-discovery (Newman & Newman, 2020; Lonergan et al., 2019). Due to the widespread adoption of smartphones and internet connectivity, SNS have gained huge popularity among young adults surpassing traditional media like televisions or magazines (Cohen et al., 2018). According to Pew Research Center (2021a), teenagers and young college adults, 18 to 29 years old, continue to be the highest consumer of social media sites since 2005 and up to the present time. Social media sites are a way for young

people to share their lives and connect with their peers (Anderson et al., 2022). The increased usage of social networking sites can be attributed to the desire for social interaction and the significant influence of peers until it becomes an obsession where adolescents seek validation from likes and comments of others which creates the risk of developing eating disorders and body image concerns (Cohen, 2018; Piercy, 2018). One of the most popular activities associated with the use of social media is selfie-sharing (Boursier et al., 2020); with an estimated 282 million out of approximately 40 billion photos posted on Instagram, 282 million are selfies (Caliandro & Graham, 2020).

Selfie

The term “selfie” commonly refers to a photograph captured by oneself or of a social aspect using a camera or other handheld device that is usually shared on social media accounts (Boursier & Manna, 2018; Bij de Vaate et al., 2018; Tiggemann et al., 2020a). While social media have undoubtedly allowed for greater connectivity among individuals, it has also contributed to the emphasis on comparing physical appearance, both among peers and strangers (Mills et al., 2018). Specifically, photo-based social media sites like Instagram, which is a photo-based platform, have been associated with negative body image outcomes (Faradouly et al., 2018). According to Nadkarni & Hoffmann (2012), the use of social networking sites allows users to fulfill two fundamental needs: the need to belong and the need for self-presentation. Consequently, the emphasis on physical appearance may be attributed to the perception of selfies as an important form of online self-presentation and impression management (Chae, 2017; Bij de Vaate et al., 2018).

Selfie-viewing

Selfie-viewing behavior, also known as lurking, refers to when a person passively views social content (Ramcharan, 2016). While the idea of viewing an idealized image alone is not foreign to the public, it has become significant on social media platforms. Similar to the past, individuals would also view idealized images on traditional media platforms like magazines or billboards, which in turn negatively impacted their well-being. Applying it to the current context, selfie-viewing may promote the idea of unattainable standards. When it comes to social media platforms, individuals would compare themselves with peers or people they know. Previous literature indicated that viewing selfies can have an indirect negative impact on one's self-esteem, the need for popularity, life satisfaction, and well-being (Valkenburg et al., 2006; Wang et al., 2017). Overall, they found self-esteem to moderate the relationship between selfie-viewing and life satisfaction. This may be due to how individuals interact with the content on social media. With selfies being the more predominant pictures uploaded, individuals who viewed them have had lower self-esteem and life satisfaction (Wang et al., 2017). This perspective aligns with the social comparison theory, which states that individuals view others in a positive light and will engage in comparison with themselves (Festinger 1954, as cited in Tamplin et al., 2018). Specifically, those high in self-objectification, they would tend to compare themselves more often (Yang et al., 2020). Overall, while the thought of viewing a selfie may be harmful alone, previous studies have indicated that it does harm an individual's life.

Selfie-taking and posting

Selfie-taking and selfie-sharing appear to be a popular activity in both men and women, although women tend to be more inclined to post selfies compared to men (Mills et al., 2018; Boursier et al., 2020; Boursier & Manna, 2018). In Boursier & Manna's (2018) study, they

discovered that selfies served as a tool for individuals to manage and communicate information online about relationships. According to Mills et al. (2018), women who took and posted a selfie to their social media profile reported lower perceived physical attractiveness compared to those who did not take a selfie. While men are sometimes overlooked in studies relating to selfies, some findings implies that men are also susceptible to the negative effects of BD on Instagram. According to Modica et al. (2020), they found that PM, specifically selfies, mediated selfie posting, BD, and PI. However, there is still a lack of research regarding the relationship between frequent Instagram posts uploaded by men who invest in their selfies and their tendency to edit their selfies. Despite these concerns, these platforms have remained an essential part of the daily lives of young college adults (Ho et al., 2017). With that focus, many users may find themselves actively monitoring their body image and the appearance of their pictures. Control of one's body image involves being highly aware of the photo's quality, how the image may portray oneself, the consequence of online selfie image, and using different strategies to take and choose a photo before sharing it on social media platforms (Boursier et al., 2018).

Selfie editing

The process of editing a selfie is not a simple task; it requires attention to specific details, which results in a complex and time-consuming process (Tiggemann et al., 2020a). The motivation for constructing an online image through PM is usually influenced by the responses of peers to their photos (Lonergan et al., 2019). Selfie editing involves the process of digitally enhancing selfies using smartphone applications or computer software, including applying filters, enlarging eyes, removing blemishes, or sliming faces (Chae, 2017). Not only that, users often plan and select specific poses before uploading their pictures to fit the thin ideal norms. As a

result, users tend to upload their best photos, which look good, by digitally editing and manipulating them (Tiggemann et al., 2020a; Cohen et al., 2018).

Thus, research has shown that engaging in taking and editing selfies has been associated with an increase in negative mood and facial dissatisfaction, establishing a link between PM and PI in BD (Tiggemann et al., 2020a; Lonergan et al., 2019). Currently, there is a lack of comprehensive research providing a qualitative aspect of filter editing in the U.S. specifically in the utilization of photo editing software for manipulating one's self-presentation or "selfies." Moreover, to our knowledge, there are relatively few studies conducted in the U.S. investigating the relationship between PM and PI and its impact on BD among young adults. As a result, this thesis holds the potential to provide new and valuable insights into the dynamics of young adult in their social media use in the context of self-image. Furthermore, prior research revealed that both engaging or not engaging in appearance-related photo activities, such as touching up and modifying pictures, was associated with a decrease in mood and anxiety, as well as an increase in body-related concerns and disordered eating (Cohen et al., 2018; Mills et al., 2018). Additionally, recent research has shown that there was no difference between PI in men and women (Lonergan et al., 2019).

Body Image

Before social media became a widespread trend, the negative effects of BD were already evident through traditional media (Tiggemann et al., 2018). However, in more recent research, there has been a concerning discovery of a positive association between PM and PI, and BD presented through uploading pictures on social media (Lonergan et al., 2019; Fardouly et al., 2018; Mingoia et al., 2017). Even so, the comparison through social media appears to be higher than traditional media, particularly due to women comparing their appearance to peers on social

media (Fardouly et al., 2017a). This may be because social media platforms promote the idea that society upholds women in conforming to the unattainable thin ideal of being attractive (Aparicio-Martinez et al., 2019). Such findings are unsettling as BD has been linked to the potential development of eating, mood, and anxiety disorders (Cohen et al., 2018; Mills et al., 2018; Fardouly et al., 2017a).

Social comparison plays a significant role in one's body image perception (Frederick et al., 2017). The social comparison theory proposes that people often use comparison to determine their self-worth (Festinger 1954, as cited in Tamplin et al., 2018). The more people compare themselves to the media images, the more their BD and drive for thinness increase (Jiotsa et al., 2021). There are two types of social comparisons: 1) Upward comparisons occur when people compare themselves to someone better, which usually results in adverse effects, and 2) Downward comparisons occur when people compare themselves with someone they perceive as less appealing (Festinger, 1954, as cited in Fardouly et al., 2017a). According to Hanna et al. (2017), most social networking sites are associated with upward social comparison and self-objectification, which in turn contributes to lower self-esteem, poorer mental health, and body image concerns. Aside from that, the tripartite influence model also plays a role in examining appearance comparison on social media. The model highlights how the cultural standards of beauty are spread through the media and peers, leading to certain appearance-related pressure on men and women (Thompson et al., 1999, as cited in Modica et al., 2020). The pressure then leads to an increase in appearance comparison, thin-ideal internalization, and BD (Modica et al., 2020).

Social media and body image

Recently, social media platforms have been transforming into photo-based platforms where users have the opportunity to post and view appearance-focused content (Lonergan et al., 2019; Tiggemann et al., 2020a). Vandenbosch et al. (2022) found current trends involving social media and body image, including the availability of different social media platforms. For instance, Instagram use has been positively correlated with self-objectification and appearance comparison but not Facebook use (Karsay et al., 2021). This can be due to the growing popularity of Instagram use in the past few years in comparison to Facebook. Next, other trends on social media include providing unique features to enhance the user experience, like creating, editing, and posting selfies, and including the feature of liking and commenting on their post. Some studies looked at how the functions of liking and commenting can be associated with operant conditioning with chances of reward and punishment. Kim (2021) found that viewing images with a higher number of likes and prioritizing peer's comments increased body dissatisfaction compared to viewing the same image but with comments that do not idealize their appearance. It is important to understand that the mere use of Instagram does not directly trigger negative body image but rather exposure to appearance-related content on the platform (Veldhuis et al., 2020). Lastly, some trends include a more positive social media environment to combat body image concerns. Previous work investigating the effect of posting fitspiration content to help promote healthier lifestyles have come to light (Barron et al., 2021), including disclaimer labels in social media images (Danthinne et al., 2020), and body positivity content (Cohen et al., 2019). Nevertheless, more research is needed in these areas, especially looking to understand the differences between genders.

Selfie and body image

To date, there are many conflicting findings about BD and selfie manipulation. Chae (2017) found that engaging in selfie editing does not necessarily indicate the individual is dissatisfied with one's appearance; rather, they desire an ideal online self-representation. On the other hand, Veldhuis et al. (2018) suggested how negative body image may serve as motivation for engaging in selfie behavior. Moreover, findings have concurred on how BD has been associated with body-related issues, but BD is not confined solely to the stigma of individuals in the obese range; it can also be experienced by people across a diverse range of body types (Weinberger et al., 2016). Besides that, previous research in this domain has predominantly focused on women, with only a handful of studies looking at the examination of men's experiences (Tiggemann & Anderberg, 2020c; Modica et al., 2020). The explored associations with different participant samples including young adult women (Cohen et al., 2018) and mixed-gender samples (Lonergan et al., 2019), are mostly conducted outside of the United States. Therefore, identifying this research gap calls for a more comprehensive understanding of why college students tend to compare themselves with others on social media rather than other forms of media—additionally, considering gender differences in BD, recognizing that BD can vary between men and women. By taking gender into account, we can gain a deeper understanding of the nuanced ways in which BD manifests and intersects with its usage in young adults.

Self-compassion

During the vulnerable stages of adolescence and emerging adulthood, the exploration and construction of self-identity can be challenging, particularly when it comes to body image and self-perception (Morin et al., 2017; Lonergan et al., 2019; Newman & Newman, 2020). Tylka et al. (2023) have found that the study of SC as a protective factor against body image concerns is

increasing in popularity. SC is an effective emotion regulation strategy in combating negative body evaluations through social media (Neff, 2003, as cited in Seekis et al., 2020). SC can be broken down into three components: self-kindness, common humanity, and mindfulness (Neff, 2003, as cited in Seekis et al., 2020). These components can provide women with a kind and understanding perspective towards themselves (self-kindness), the understanding of flaws and imperfections being a part of a human perspective (common humanity), and acknowledging and understanding negative thoughts without judgments (mindfulness) or fixating on negative body evaluations (Seekis et al., 2020).

Body Image and Self-compassion

There are many studies done in response to using self-kindness, common humanity, and mindfulness as tools to promote a healthy body image. In a recent meta-analysis, Turk & Waller (2020) found that SC is indeed effective in enhancing a healthy body image within a moderate effect size. Additionally, a study involving an intervention with a large effect size conducted a self-compassion workshop through a Facebook discussion group. The results showed a decrease in social appearance anxiety and upward appearance comparison, as well as an increase in SC for a period of up to three months (Seekis et al., 2020). Furthermore, other research has shown that practicing SC through writing tasks can effectively decrease weight and appearance dissatisfaction, resulting in increased motivation for self-improvement (Moffitt et al., 2018; Aljoscha et al., 2021). In addition, mindfulness and common humanity positively affected moderating relationships between overweight status and appearance comparison (Rodgers et al., 2017). However, many studies have looked at different strategies to reduce negative body image, and young adolescents still find it hard to apply self-compassion techniques to their daily lives. Recent studies have found that despite having high trait levels of self-compassion mindfulness,

the notion of self-compassion being practiced had little evidence as a coping mechanism in appearance-related distress (Seekis et al., 2021b). The gap in the literature is to continue investigating individuals' understanding of self-compassion (Seekis et al., 2021a), enhancing their practice, and examining ways of increasing future efforts in practicing it as a strategy.

Social Media exposure and Self-compassion

Additionally, viewing images related to fitness and inspiration topics had a positive effect on body satisfaction and appreciation, while SC led to improvement in overall body satisfaction and appreciation (Barron et al., 2021). Not only that, SC has also been evident in buffering the links between body talk on social and BD and the viewing of fitspiration content and drive for thinness (Wang et al., 2019; Seekis et al., 2021a). However, there are currently mixed findings on fitspiration content as some may say it has increased the idealization of bodies and promotion of restrained eating and excessive exercise (Vandenbosch et al., 2022). Another effective social media exposure method is body-positivity content, otherwise known as Bo-po content, where they promote body acceptance and encourage body diversity by attaching body-positive captions which helps with providing self-compassion (Cohen et al., 2019). Despite all the ongoing and past evidential research, there is still much that needs to be addressed.

Selfie and Self-compassion

Despite these promising findings, many studies have looked at different strategies to reduce negative body image. However, it appears that young adolescents still encounter difficulty in applying SC techniques to their daily lives. Recent studies have found that despite having high trait levels of SC -mindfulness, the notion of SC being practiced had little evidence as a coping mechanism in appearance-related distress (Seekis et al., 2021b). On the other hand, there is some research indicating editing selfies can be a way for them to boost self-esteem and

improve self-presentation (Lavrence & Cambre, 2020). According to Kedzior and Allen (2016), selfies can be a way to enhance their own attractiveness or online presence which in turn reduces the risk of feeling excluded from their peers and promotes diversity. However, their findings indicated the effects of selfies vary depending on their age. While taking selfies and editing pictures may not be a healthy way to feel better about oneself, it is also important to consider the fact that some people do participate in these methods as a way to improve their self-image despite the criticisms of being “fake” (Lavrence & Cambre, 2020). The act of taking and editing selfies alone may not be the main reason why negative feelings or BD arise. Still, the external evaluation of their appearance may be of concern (Terán et al., 2020). Nevertheless, there is a need for further exploration of using selfie editing as a strategy to increase one's self-esteem and self-perception. By filling this research gap, researchers and practitioners can develop interventions for young adults that promote healthier body image perceptions and improve the well-being of young individuals who are dealing with body image-related challenges.

The Current Study

Significance

With social media and selfies becoming more popular activities, more attention has been shifted towards prioritizing one's online impression and less of a real-life impression. As a result, this may lead to many negative consequences, specifically for teenagers growing up in a generation of technology as well as being at a sensitive age that may impact their stage of development. There is also a link between social media use specifically related to selfies, and the development of eating disorders and poorer mental health conditions (Wick et al., 2020). There are also additional levels of anxiety among individuals associated with uploading a picture without editing them (Mills et al., 2018; Hoffman, 2020). Aside from adding to the current

knowledge of this growing field, the purpose of the present study is to investigate the effects of the use and frequency of selfie editing among male and female users to understand the differences in the usage of selfies among genders. The design of this research followed the design of Tiggemann et al. (2020a) and Lonergan et al. (2019). Nonetheless, the study will help tease apart the focus of selfies between genders through the selfie editing task as well as the functions they prioritize using. It also includes an understanding of how self-compassion helps overcome negative body image. Both quantitative and qualitative aspects will allow the research to be taken from different perspectives to help strengthen the results of the research findings. Demonstrating the impact of self-compassion on photo-based behavior and body dissatisfaction is critical as it can help inform future clinical interventions in tailoring to the needs of the students specifically in what is hindering their emotions or discrepancy in photo-based behavior activities. This research is also innovative as it includes the observed behavior in selfie activity and self-report behaviors to make comparisons with and how that may impact their thought process in relation to their body image.

Research Question

RQ1: What is the association between the use and frequency of selfie editing among young college adults?

Hypothesis 1a: Selfie time will positively correlate to the extent of editing.

Hypothesis 1b: Selfie time will positively correlate to the number of selfies taken.

Hypothesis 1c: Editing time will positively correlate to the extent of editing.

Hypothesis 1d: Editing time will positively correlate to the number of selfies taken.

Hypothesis 1e: Editing time will positively correlate to the selfie time.

RQ2: How do gender differences influence the relationship between social media usage, selfie manipulation, and body image perceptions?

Hypothesis 2: No prior hypothesis was made to allow for exploration.

RQ3: What are some ways people practice SC?

Hypothesis 3a: Individuals with high body dissatisfaction have low self-compassion.

Hypothesis 3b: Individuals with high self-compassion have low photo-based behavior.

RQ4: What is the lived experience of individuals who engage in selfie manipulation in connection with BD?

Chapter 3: Methodology

This study investigated the selfie-editing process and its effects on body image and self-compassion. A mixed methods approach was utilized, using phenomenology from a qualitative approach and psychometric properties of a methodological framework to answer the research question (Jason & Glenwick, 2016). The quantitative method was used to examine the frequency and use of PM and PI behaviors while accounting for BD and SC. Through surveys and selfie-editing activity, the study was able to identify patterns and relationships between variables. In contrast, the qualitative method would focus on individuals who have experienced the phenomenon and share their experiences through textual and structural descriptions of the everyday experience (Creswell & Poth, 2018). The combination of these approaches enabled the research to take a systematic and transparent approach without making assumptions regarding the population investigated. Thus, the study was successful in offering a comprehensive understanding of the topic of selfie manipulation and its impact on body image perceptions and mental well-being in young adults.

Participants

Participants were recruited through posters, flyers, and collaborating with professors to promote the study through class presentations. Participants who completed the study were compensated a \$5 gift card or 2 Psychology Activity Credits if they were Psychology students. The sample for the present study consists of both male ($N = 34$) and female ($N = 77$), and the inclusion criteria are residential undergraduate students at Liberty University. In terms of age, most participants were between ages 18 to 19, 48 (43%), 45 (40%) were between 20 to 21, and 18 (16%) were above age 22. As for race, the majority of the sample was Caucasian (59%), followed by African American (14%), Asian (12%), Latino or Hispanic (7%), and other (6%). On the other hand, in terms of years in college, most participants are in their Senior year (31%), followed by Sophomores (27%), Juniors (25%), and Freshmen (17%). Most participants reported being from the School of Behavioral Sciences (32%), followed by the School of Business (17%), the School of Health Sciences (11%), the Helm School of Government (9%), the School of Communication and Arts (8%), College of Arts and Sciences (5%), the School of Education (4%), the School of Nursing (4%), the School of Aeronautics (3%), the School of Music (2%), Others (2%), John W. Rawling School of Divinity (1%), the School of Law (1%), and the School of Engineering (1%). Participants were asked to report an estimate of their weight and height and their BMI was calculated in Excel. 8 (7%) were reported to be underweight, 67 (60%) were within the normal BMI range, 21 (19%) were overweight, and 15 (14%) were obese.

Materials

Experimental manipulation: Image type

Previous studies have shown that exposure to thin images can lead to increased BD and appearance compared with peers (Cohen et al., 2017; Mingoia et al., 2017; Lonergan et al., 2019;

Tiggemann et al., 2018; Tiggemann et al., 2020a). In line with the experimental manipulation conducted by Tiggemann et al. (2020a), the present study utilized a similar modified experimental approach to extend and expand upon these findings within the student population at Liberty University. The focus of this manipulation is to elicit negative body image perceptions by investigating participants' perceptions of the perfect body sizes. Participants were exposed to 10 pictures of individuals (five males and five females). Each picture consists of a set of 10 different pictures of the same individuals, ranging from their original pictures to larger-sized edited pictures. These pictures showed the different body sizes of the individual. Participants rated their perception of their idea of the perfect ideal body size on a scale of 1 to 10.

The images were collected from free image platforms like Pixel and Pinterest to ensure a diverse representation of body types. The images included individuals from different racial backgrounds like Caucasian, Asian, Black, and Hispanic. The images were half-body shots, from the head to the area between the waist and hips, and the individuals in the picture were wearing black shirts. The selected pictures were edited in Adobe Photoshop on a scale of 2 to 10, with 1 being the original picture. Each subsequent picture was increased in weight by 25% through the editing function of Adobe Photoshop, focusing on specific areas like the face, arms, waist, and double chins. The final set of images was presented to participants during the first phase of the study. It is hypothesized that individuals will perceive body sizes on a scale of 1 to 5 as the perfect ideal body size, while 6 to 10 will be rated as less than ideal.

Selfie-taking and editing behaviors

Participants were instructed to take up to five selfies on an Apple iPad, ensuring that each of the pictures includes their head down to the middle of their body. During this process, the researcher recorded the number of selfies taken and the time (in seconds) to capture and

choose the selfies. Following the experimental design by Tiggemann et al. (2020a), the participants used the 'YouCam Perfect' editing platform to edit their chosen picture for up to 10 minutes. The application was chosen because it is rated one of the top 10 mobile apps for the best face filter for flawless selfies (Collins, 2023). Aside from that, it is also readily accessible, easy to use, and includes a large range of functions.

One of the functions of the 'YouCam Perfect' app is that it provides a numerical index to indicate the degree of change made during editing, ranging from 0, on the far left to 100 on the far right, signifying the strength and intensity of some of the editing features. Editing functions requiring only one click without scaling were indicated as Yes or No. For those with yes, a score of 100 was assigned. In total, there are altogether 16 beautifying editing functions available within the app, including automatic beautification, filters, skin smoothing, altering face shape, adjusting skin tone, nose enhancement, removing eye bag/dark circle, enlarging eyes, brightening eyes, removing acne and blemish, enhancing smiles, reducing of shine/oil on the skin, contouring the face, lip enhancement, teeth whitening, applying blush, and eyelid enhancement. The basic editing functions we looked at in the app included exposure, brightness, contrast, highlights, shadows, saturation, light, temperature, sharpening, dark, tint, hue, saturation, lightness, and color.

The extent to which editing functions will be used will be scored on a scale of 0 to 100, apart from the automatic beautification and blemish removal functions, which are not scored categorically. The scores from all the editing functions will then be summed to create a total of editing scores ranging between 0 and 1600. Additionally, the total time (in seconds) spent editing the selfie will be recorded. While participants are editing their pictures, the iPad's screen-recording feature will be used to capture their editing process.

Photo Manipulation and Investment

McLean et al. (2015) developed Photo Manipulation and Investment Scales in assessing to the extent to which participants engage in digital alterations of their selfies, referred to as Photo Manipulation, as well as their level of effort in choosing a selfie to share on social media and monitoring other's responses to their images, known as Photo Investment. The Photo Manipulation scale consists of ten items, measured on a 5-point Likert scale (1 = never, 5 = always), assessing participants' frequency of using different manipulation procedures. The scores can be summed and averaged in a range between 1 to 5, where higher scores indicate more frequent PM. Previous studies have reported good internal reliability for women is $\alpha = 0.81 - 0.86$ and for men is $\alpha = 0.76$ (McComb et al., 2021; Lonergan et al., 2019; Tiggemann et al., 2018; McLean et al., 2015).

On the other hand, the Photo Investment scale used an 8-item visual analog scale to assess the degree of concern or effort participants put into selecting and uploading selfies to social media. The visual analog scale is present from 0 to 100 with opposing statements at each end. For instance, on the far-left statements like "I don't care which photos I share/post" and on the far right, "I carefully select the best photo to share/post." The total scores are calculated as the mean of all items with higher scores indicating greater PI. Previous studies have reported good internal reliability for women of $\alpha = 0.85$ and $\alpha = 0.72$ for men (McLean et al., 2015; Lonergan et al., 2019).

Body Shape Questionnaire

Another scale that was used in this study is the Body Shape Questionnaire (BSQ). The Body Shape Questionnaire (BSQ) consists of 16 items, measured on a 6-point Likert scale, focusing on specific body parts features relevant to males and females. The total score of

dissatisfaction is determined by summing the responses to determine the level of BD. The overall total score range would be between 34 to 204. A higher score of more than 140 indicates greater BD. Kling et al. (2019) systematically measured the Body Shape Questionnaire (BSQ) scale and found strong evidence of good internal consistency, structural validity, and strong support for content validity. The study also revealed moderate evidence for the convergent validity of the 16-item BSQ.

Self-Compassion Scale

Neff et al. (2021) developed the Self-Compassion scale as a tool to assess individuals' tendencies to engage in the cognitive, attentional, and emotional behaviors associated with both compassionate and uncompassionate responses to feelings of personal inadequacy and challenges in life. For instance, statements like “I try to be loving towards myself when I’m feeling emotional pain.” The Self-Compassion Scale consists of 26 items, measured on a 1 to 5 Likert Scale (1 = Almost never and 5 = Almost always). The measure has different subscales including self-kindness, self-judgment, common humanity, isolation, mindfulness, and overidentification. The total mean scores of the items will be averaged by reverse scoring negative subscale items like self-judgment, isolation, and overidentification with 1.0-2.49 indicating low SC, 2.5-3.5 indicating moderate SC, and 3.51-5.0 with high SC (Neff, 2003). Higher scores will indicate greater SC. The Self-compassion Scale has shown a high test-retest reliability of 0.93 with a good Cronbach Alpha of 0.92 and demonstrated strong construct, convergent, and discriminant validity (Neff, 2003).

Procedure

The study was approved by the Institutional Research Board Committee. The study consists of three phases. In the first phase of the study, participants were asked to rate edited

images of 10 individuals, their ideal body type, and their nonideal body type on a scale of 1 to 10, where 1 represents the unedited version and 10 represents the edited version. Participants also completed a series of questionnaires regarding demographics questionnaire, PM and PI, BD, and SC on the computer. The second phase consists of the selfie editing task using the iPad. Participants were asked to take photos as if they were going to upload them to either one of the scenarios, such as a dating profile, LinkedIn, or Instagram, and they will have the opportunity to edit their images. To ensure privacy, the researcher was stationed outside the room while keeping track of the time while participants took their selfies. Once they finished taking their selfies, the researcher started the iPad screen recording of the participant's editing process. The third phase of the study consisted of a 15-minute interview with each participant, focusing on their personal experience related to the posting, editing, their feelings upon viewing the thin and averaged size pictures, and any instances where they utilized SC when faced with BD. Participants were compensated with a \$5 Walmart, Amazon, or Target gift card at the end of the session. Following the completion of data collection, participants were debriefed by the researcher.

Quantitative Statistical Analyses

Preliminary data screening was performed to ensure the analyzed data met all the assumptions. These included checking the assumptions of normality, homogeneity of variance, multicollinearity, skewness, kurtosis, and the presence of multivariate or univariate outliers. The research design that was originally planned for was Factorial ANOVA, Hierarchical regression, and Pearson's correlation. To address some of the unmet assumptions within the analysis, Spearman's correlation, Pearson's correlation, Mann-Whitney U test, and binomial logistic regression were used. Thus, these analyses provided insights into gender differences between

experiences as well as informed the correlation between variables used to better understand the relationship.

Qualitative Thematic Analyses

A phenomenological approach to a qualitative analysis was conducted to highlight the essence of lived experiences among participants. The current study looked at participants' lived experiences of selfie editing, its impact on their body satisfaction, and how self-compassion helps mitigate the negative outcomes. The approach utilizes thematic analysis to describe the essence of the lived experiences of participants with selfie editing, its impact on their body satisfaction, and how self-compassion helps mitigate the negative outcomes. The interview transcripts that were recorded via Microsoft Teams were downloaded into a Microsoft Word file. Then, the researcher then cleaned up and rereads the transcript more than once to ensure a better understanding of experiences, made notes on similar themes or statements used throughout the transcript, and then grouped themes into codes (Creswell & Poth, 2018). A thematic comparison was also used to compare and contrast themes between subjects' designs.

Chapter 4: Results

Data Cleaning and Assumptions

For the quantitative data, missing data was filled with the median or mean of the variable, depending on the skewness of the data. For the normally distributed variables, the mean was computed for the missing data point. For skewed variables, the median was used to represent the missing variable as the mean may not have accurately represented the data appropriately. About 5% of the data is missing from the Photo Investment Scale because respondents may have forgotten to answer certain questions. Therefore, the missing data value was filled in with the mean of the variable. In the qualitative analysis, the total interview data collected was 74, but it

was later narrowed down to 45 after the interviews were transcribed and cleaned. The interview data that were excluded was due to incomplete responses and confusion regarding the interview process at the start. Nevertheless, the interviews of participants who answered specific questions as intended were considered for inclusion in the study.

Key measures of the study include photo manipulation, photo investment, photo-based behavior, self-compassion, and body dissatisfaction. A Shapiro-Wilk test of normality showed that Photo Investment, Photo-based Behavior, and Self-compassion scores were approximately normally distributed ($p > .05$). The skewness of Photo Investment scores and Self-compassion scores appeared to be skewed left towards lower values. In contrast, Photo-based behavior scores appeared to be skewed right towards higher values. Both indicate good symmetry. However, the kurtosis for the scales appears to have distributions that are platykurtic as they have fewer extreme values in the scale and are less peaked compared to a normal distribution. Photo manipulation and body dissatisfaction were skewed and kurtotic towards higher values, with a heavy-tailed distribution that has a higher probability of extreme values. For the selfie task procedure, the extent of editing, selfie-taking time, editing time, and the number of selfies taken were all skewed and kurtotic. The number of selfies and selfie-taking time have a strong positive skewness that is leptokurtic, which is where most scores had large or extreme values. On the other hand, the extent of editing has a moderate positive skewness with a slight heavy tail distribution. Editing time has a nearly symmetrical distribution but is considered platykurtic. The visual analysis of histograms and Q-Q plots supported the findings of the Shapiro-Wilk test for the selfie task, suggesting the distributions were not normal ($p < .05$). ANOVA is robust against violations of normality (Havlicek & Peterson, 1974). Thus, the intended parametric tests were used for the analysis. Photo Investment, Photo Manipulation, and Self-compassion met the

assumption of homogeneity of variance ($p > .05$). However, scores on photo-based behaviors and body dissatisfaction failed to meet the assumption of homogeneity of variance ($p > .05$). Analysis of scores between key measures suggests no univariate or multivariate outliers.

Descriptive Statistics

Table 1 reports the mean and standard deviation for the selfie editing task by gender specifically selfie-taking time, number of selfies, editing time, and extent of editing. Next, Table 2 reports the mean and standard deviation for the key variables including photo manipulation, photo investment, photo-based behavior, self-compassion, and body dissatisfaction were separated by gender. Additionally, descriptive statistics of participants' age, gender, BMI range, year in college, Schools, and Race were reported in Table 3.

Table 1

Means and Standard Deviation of Selfie Editing Task by Gender

Variable	Female		Male	
	<i>M</i>	<i>(SD)</i>	<i>M</i>	<i>(SD)</i>
Selfie Time (Use _{ST})	90.38	(93.08)	117.30	(145.61)
Number of Selfies (Freq _{NOS})	3.5	(4.12)	4.23	(4.51)
Editing Time (Use _{ET})	349.82	(173.51)	318.13	(159.85)
Extent of Editing (Use _{EXT})	271.25	(225.55)	234.34	(195.15)

Table 2

Means and Standard Deviation of Photo Manipulation, Photo Investment, Body Dissatisfaction, Self-compassion, and Photo-based Behaviors for Men and Women.

Variable	Men		Women	
	<i>n</i>	<i>M(SD)</i>	<i>n</i>	<i>M(SD)</i>
Photo Manipulation	34	15.56(5.44)	77	18.52(6.26)
Photo Investment	34	44.65(14.77)	77	54.75(16.01)
Body Dissatisfaction	34	30.65(10.72)	77	39.74(16.84)
Self-compassion	34	3.07(0.36)	77	3.19(0.32)
Photo-based Behavior	34	60.21(15.42)	77	73.27(19.51)

Note: Cases excluded pairwise.

Table 3

Sociodemographic Characteristics of Participants

	<i>n</i>	%	<i>M</i>	<i>SD</i>
Gender				
Male	34	31%		
Female	77	69%		
Age				
			20.14	1.99
18-19	48	43%		
20-21	45	41%		
>22	18	16%		
Year in College				
Freshman	19	17%		
Sophomore	30	27%		
Junior	28	25%		
Senior	34	31%		
BMI				
			24.01	4.94
Underweight	8	7%		
Normal	67	60%		
Overweight	21	19%		
Obese	15	14%		
Race				
African American	16	14%		
Asian	14	13%		
Caucasian	66	60%		
Latino or Hispanic	8	7%		
Native American	0	0%		
Other	7	6%		
School				
College of Arts and Sciences	6	5%		
Helms School of Government	10	9%		
John W. Rawlings School of Divinity	1	1%		
School of Aeronautics	3	2%		
School of Behavioral Sciences	35	32%		

School of Business	19	17%
School of Communication and the Arts	9	8%
School of Education	4	4%
School of Engineering	1	1%
School of Health Sciences	12	11%
School of Law	1	1%
School of Music	2	2%
School of Nursing	5	4%
Others	2	2%

Note. N = 111.

Selfie Activity and Image Type Comparison

On average, participants used about 109 seconds in total ($SD = 131.93$) to take about 4.01 selfies ($SD = 4.39$). All selfie pictures included their entire face, shoulders, and upper chest.

Participants spent about five and a half minutes ($M = 327.84$ secs, $SD = 164.02$) editing them.

Table 4 reports the descriptive statistics of the beautifying editing process and Table 5 reports the descriptive statistics of the basic editing process. The most popular beautifying editing process is the filter, skin smoothener, and blemish removal, each used by more than 20% of the sample. On the other hand, the most popular basic editing process is exposure, brightness, contrast, highlights, shadows, and saturation, each used by more than 20% of the sample.

Table 4

Means (SD) for Extent of Editing (0-100) and Percentage of Participants Using Beautifying Editing Functions [Function Name].

Beautifying Editing Functions	$M(SD)$	% sample
1. Filter [Effects]	27.93 (45.07)	27.92%
2. Smooth skin [Smoothener]	9.05 (18.04)	26.13%
3. Blemish removal (yes/no) [Acne]	26.13 (44.13)	26.13%
4. Dark circle removal [Eye bag]	11.47 (26.51)	19.82%
5. Brighten eyes [Brighten]	9.32 (23.98)	18%
6. Whiten teeth [Teeth Whitener]	5.41 (15.05)	17.11%
7. Face contouring [Contour]	6.18 (17.23)	13.51%
8. Blush application [Blush]	6.09 (17.63)	12.61%

9. Oil/shine removal [Oil Free]	7.53 (23.53)	10.81%
10. Lips to smile [Smile]	2.03 (8.23)	9.90%
11. Skin tone [Tone]	3.81 (13.05)	9%
12. Auto-beautify (yes/no) [Auto]	4.50 (20.83)	4.5%
13. Shape face [Face Shaper]	1.58 (7.43)	4.5%
14. Nose Enhance [Enhancer]	0.82 (8.64)	1%
15. Eyelid enhancement [Double Eyelid]	0.31 (3.23)	1%
16. Enlarge eyes [Enlarger]	0 (0)	0%

Table 5

Means (SD) for Extent of Editing (0-100) and Percentage of Participants Using Basic Editing Functions.

Basic Editing Functions	<i>M(SD)</i>	% sample
1. Exposure	14.16 (21.97)	29.73%
2. Brightness	14.86 (23.90)	28.82%
3. Contrast	14.82 (26.11)	26.12%
4. Highlights	12.99 (24.31)	23.42%
5. Shadows	12.06 (22.42)	23.42%
6. Saturation	11.43 (22.64)	20.72%
7. Light	10.11 (23.62)	17.11%
8. Temperature	7.4 (18.26)	14.41%
9. Sharpen	8.41 (20.74)	14.41%
10. Dark	5.41 (15.90)	11.71%
11. Tint	4.22 (14.39)	8.10%
12. HSL: Saturation	2.20 (11.79)	3.6%
13. HSL: Lightness	1.91 (10.18)	3.6%
14. HSL: Hue	1.73 (9.19)	3.6%
15. HSL: Color	1.80 (13.36)	1.80%

Table 6

Means (SD) of Image Type Comparison for Male Images

	Male 1	Male 2	Male 3	Male 4	Male 5
<i>M(SD)</i>	2.64 (1.51)	2.76 (1.29)	3.43 (1.72)	3.84 (1.49)	3.35 (1.51)

Table 7*Means (SD) of Image Type Comparison for Female Images*

	Female 1	Female 2	Female 3	Female 4	Female 5
<i>M(SD)</i>	3.51 (1.52)	3.49 (1.67)	2.97 (1.52)	2.56 (1.36)	2.8 (1.62)

Research Question 1: Use and Frequency of Selfie Editing

To assess the relationship between the use and frequency of selfie editing, a Spearman's Rho Intercorrelation between the extent of editing, number of selfies, selfie time, and editing time was computed in Table 6. The use of selfie editing is measured by the extent of editing, editing time, and selfie time. In contrast, the frequency of selfie editing is calculated based on the number of selfies taken. A Spearman's correlation was conducted to evaluate the relationship between the extent of editing, the number of selfies taken, selfie time, and editing time. Overall, there was a strong positive correlation between selfie time and the number of selfies, $r(109) = .618, p < .001$, and a moderate positive correlation between editing time and the number of selfies, $r(109) = .354, p < .001$, and editing time and selfie time $r(109) = .310, p = .002$.

Another series of Spearman's correlations was conducted to see whether the self-report behavior of habitual self-photo manipulation and self-photo investment was related to actual behavior observed in the laboratory in Table 7. Overall, there was a significant relationship between self-report photo manipulations and the number of selfies taken, $r(109) = .232, p = .014$, self-report photo investment and the number of selfies taken, $r(109) = .193, p = .042$, and self-report photo investment and editing time, $r(109) = .213, p = .025$.

Table 8

Spearman's Rho Intercorrelations between the Extent of Editing, Number of Selfies, Selfie Time, and Editing Time.

		1.	2.	3.	4.
Extent of Editing (Use _{EXT})	ρ	1	.046	.067	.178
	Sig. (2-tailed)		.644	.507	.065
Number of Selfies (Freq _{NOS})	ρ	.046	1	.618**	.354**
	Sig. (2-tailed)	.644		<.001	<.001
Selfie time (Use _{ST})	ρ	.067	.618**	1	.273**
	Sig. (2-tailed)	.507	<.001		.007
Editing time (Use _{ET})	ρ	.178	.354**	.310**	1
	Sig. (2-tailed)	.065	<.001	.002	

* $p < .05$

** $p < .01$

Table 9

Spearman's Intercorrelations between Photo-based behaviors, Photo Manipulation, Photo Investment, and Selfie Task

		Photo Manipulation	Photo Investment
Extent of Editing	ρ	.129	-.065
	Sig. (2-tailed)	.178	.501
Selfie Taking Time	ρ	.037	.056
	Sig. (2-tailed)	.696	.561
No of Selfies taken	ρ	.232*	.193*
	Sig. (2-tailed)	.014	.042
Editing Time	ρ	.166	.213*
	Sig. (2-tailed)	.082	.025

Note: Cases excluded pairwise

* $p < .05$

Research Question 2: Gender Differences in Photo-Based Behaviors and Body

Dissatisfaction

A Mann-Whitney U test was performed to evaluate whether photo-based behavior, body dissatisfaction, photo investment, and photo manipulation differed by gender (Table 8). The

results indicated that there were statistically significant differences in males and females in all four variables (See Table 6). Females had significantly higher differences than males in Photo-based behaviors, $z = -3.56, p < .001$, Body Dissatisfaction, $z = -2.77, p = .006$, Photo Investment, $z = -3.05, p = .002$, and Photo Manipulation, $z = -2.65, p = .008$.

A Spearman's Rho Intercorrelation was conducted to evaluate the relationship between photo-based behaviors, body dissatisfaction, photo manipulation, and photo investment among genders (Table 9). For males, there was a strong positive correlation between photo-based behavior and photo investment, $r(109) = .956, p < .001$. On the other hand, for females, there was a moderate positive correlation between photo-based behavior and body dissatisfaction, $r(109) = .445, p < .001$, photo-based behavior and photo manipulation, $r(109) = .623, p < .001$, photo-based behavior and photo investment, $r(109) = .960, p < .001$, body dissatisfaction and photo manipulation, $r(109) = .326, p = .005$, body dissatisfaction and photo investment, $r(109) = .419, p < .001$, and photo manipulation and photo investment, $r(109) = .411, p < .001$.

Table 10

Mann-Whitney U Test on Photo-based Behavior, Body Dissatisfaction, Photo Investment, and Photo Manipulation

	Photo-based Behavior	Body Dissatisfaction	Photo Investment	Photo Manipulation
Mann-Whitney U	752.000	877.000	832.500	896.000
Wilcoxon W	1347.000	1472.000	1427.500	1491.000
Z	-3.564	-2.765	-3.049	-2.651
Asymp. Sig. (2-tailed)	<.001	.006	.002	.008

Note: Grouping Variable: Gender

Table 11

Spearman's Rho Intercorrelations of Male between Photo Based Behaviors, Body Shape Questionnaire, Photo Manipulation, and Photo Investment

		1.	2.	3.	4.
1. Photo Based Behaviors	ρ	--			
	Sig. (2-tailed)				
2. Body Dissatisfaction	ρ	.149	--		
	Sig. (2-tailed)	.401			
3. Photo Manipulation	ρ	.178	.098	--	
	Sig. (2-tailed)	.313	.582		
4. Photo Investment	ρ	.956**	.182	-.059	--
	Sig. (2-tailed)	<.001	.304	.738	

** $p < .01$

Male, $n = 34$

Table 12

Spearman's Rho Intercorrelations of Female between Photo Based Behaviors, Body Shape Questionnaire, Photo Manipulation, and Photo Investment

		1.	2.	3.	4.
1. Photo Based Behaviors	ρ	--			
	Sig. (2-tailed)				
2. Body Dissatisfaction	ρ	.445**	--		
	Sig. (2-tailed)	<.001			
3. Photo Manipulation	ρ	.623**	.326**	--	
	Sig. (2-tailed)	<.001	.005		
4. Photo Investment	ρ	.960**	.419**	.411**	--
	Sig. (2-tailed)	<.001	<.001	<.001	

** $p < .01$

Female, $n = 77$

Research Question 3: Self-compassion, Body Dissatisfaction, and Photo-Based Behaviors

A non-parametric binomial logistic regression analysis and Pearson's correlation analysis were utilized to address how individuals practice self-compassion. Additionally, a qualitative thematic analysis was conducted to capture the essence of the practice of self-compassion within the population.

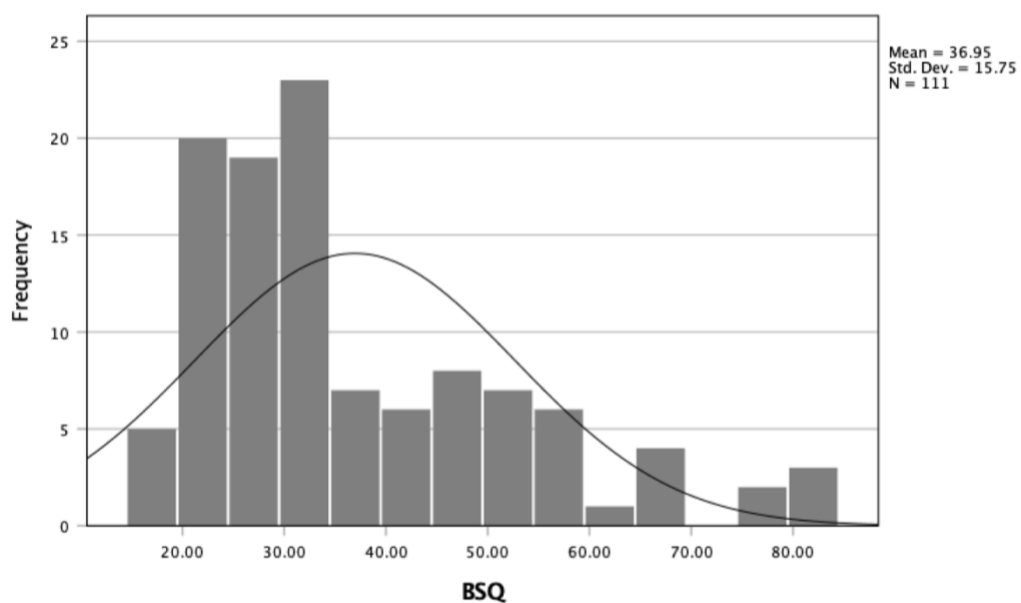
Self-compassion and Body Image Concerns

When testing the hypothesis of using self-compassion as a protective factor for body dissatisfaction, the assumptions of normal distribution of the Body Shape Questionnaire scale were not met, with most responses being less than 35 within the little to no concern scores (Figure 1). Therefore, a binomial logistic regression was conducted in Table 11. Based on the distribution of responses, splitting the responses into Low and High at 35 makes sense. The responses ended up with 61% being low and 35% being high within the no-concern category.

A logistic regression was performed to determine the effects of age, BMI, gender, year in college, photo manipulation, photo investment, and self-compassion on the likelihood of the participants having some concerns with body dissatisfaction within the no-concern category. The logistic regression model was statistically significant, $\chi^2(12) = 11.722, p < .001$. The model explained that 40.3% (Nagelkerke R^2) of the variance in body dissatisfaction correctly classified 71.2% of cases. Individuals above the cut-off were 17.52 times more likely to engage in Self-compassion ($p = .002$) than those below. Additionally, individuals above the cut-off were 1.09 times more likely to engage in photo manipulation ($p = .049$) than those below. Increasing BMI was also associated with an increased likelihood of exhibiting body dissatisfaction.

Figure 1:

Histogram representing positive skewness of Body shape Questionnaire.

**Table 13**

Results of Variables in the Equation of the Binomial Logistic Regression

	<i>B</i>	<i>SE</i>	Wald (χ^2)	<i>df</i>	Sig.	Exp(B)	95% CI for EXP(B)	
							Lower	Upper
Step 1 ^a								
Gender(1)	.430	.621	.479	1	.489	1.537	.455	5.186
Age			.567	2	.753			
Age(1)	.457	.633	.520	1	.471	1.579	.456	5.460
Age(2)	.479	.886	.292	1	.589	1.614	.284	9.157
Year_in_College			.449	3	.930			
Year_in_College(1)	-.098	.820	.014	1	.905	.907	.182	4.522
Year_in_College(2)	-.424	.888	.228	1	.633	.654	.115	3.730

Year_in_College(3)	-.475	.886	.288	1	.591	.622	.110	3.528
BMI_Code			12.121	3	.007			
BMI_Code(1)	1.775	1.039	2.921	1	.087	5.903	.771	45.220
BMI_Code(2)	2.668	1.184	5.077	1	.024	14.405	1.415	146.641
BMI_Code(3)	4.187	1.316	10.119	1	.001	65.831	4.989	868.664
PM	.084	.043	3.891	1	.049	1.088	1.001	1.182
PI	.027	.018	2.392	1	.122	1.028	.993	1.064
SCS	2.863	.932	9.445	1	.002	17.520	2.821	108.791
Constant	-14.980	3.497	18.345	1	<.001	.000		

a. Variable(s) entered on step 1: SCS.

Self-compassion and Photo-based behaviors

A Pearson correlation was conducted to evaluate the relationship between self-compassion and photo-based behaviors among genders (Table 9). Overall, there was a positive correlation between self-compassion and photo-based behavior, $r(109) = .313, p < .001$. There was a positive correlation in females between self-compassion and photo-based behaviors, $r(75) = .332, p = .003$. However, there was no significant difference between self-compassion and photo-based behavior in males.

Table 14

Pearson's Correlations between Self-compassion and Photo-based Behaviors.

		1.	2.
1. Self-compassion	ρ	1	.313**
	Sig. (2-tailed)		<.001
2. Photo Based Behavior	ρ	.313**	1
	Sig. (2-tailed)	<.001	

** $p < .01$

Table 15

Pearson's Correlations of Females between Self-compassion and Photo-based Behaviors.

		1.	2.
1. Self-Compassion	ρ	1	.332**
	Sig. (2-tailed)		.003
2. Photo Based Behavior	ρ	.332**	1
	Sig. (2-tailed)	.003	

** $p < .01$

Female, $n = 77$

Self-compassion practices

The thematic analysis of semi-structured interviews included questions about how students experience, engage with, and observe the effects of self-compassion when editing images. Students recognized the use of self-compassion and its impact on their thinking and mindset shift. Moreover, when asked about using self-compassion, most students are not aware of their use of self-compassion when editing a picture and those who use them, perceive their use

of self-compassion to be insufficient. Their perception sheds light on the limited awareness of self-compassion as a coping mechanism. Nonetheless, the analysis divided themes into males and females to further examine the impact of self-compassion between genders in perception and utilization of self-compassion. Lastly, the analysis looked at the overall thoughts of self-compassion and its use to help understand where they are currently at with their knowledge and use of self-compassion.

Gender differences in self-compassion.

Compared to males, most females emphasize their faith and spiritual beliefs when engaging in self-compassion. They described finding their identity and self-worth in God, which allows them to express compassion for themselves in times of struggle. With editing images, they describe shifting their focus on their inner qualities and values rather than mainly looking at their external standards, recognizing that God loves them as they are and therefore alleviating the stresses of conforming to societal standards. On the other hand, most females mention engaging in self-care activities like skincare routines, exercising, and eating healthy to be compassionate to oneself. They describe being able to take care of their well-being and show compassion to themselves. Lastly, most females describe showing gratitude for the moment in the picture rather than focusing on their appearance. They shared how grateful they are for the memories associated with the pictures to show compassion for themselves. In contrast, most males described self-compassion as a tool to help them be more self-aware as it helps them recognize their flaws, which pushes them to be better. Aside from that, most males also mentioned using self-compassion to motivate themselves. Most males shared about when they are upset during times of struggles or dissatisfaction with themselves. Despite feelings of frustration, they shared how the feeling of dissatisfaction helps motivate them to do better as it helps them recognize

they are not where they want to be right now and are motivated to keep striving for better. Lastly, most males have a solution-based mindset where they shift their focus to finding solutions instead of allowing themselves to ruminate or self-criticize, and this contributes to their personal growth and development.

Self-Compassion Thoughts

Participants were also asked to share their thoughts on their engagement with self-compassion. Many expressed views of self-compassion can be a way to help them accept their imperfections, drawing upon the concept of utilizing common humanity to help them accept their imperfections, such as having eye bags without harsh judgments. Participants also described using self-compassion to help them challenge their pursuit of perfection when they are faced with the need to overedit their selfies, recognizing they do not need to strive for unrealistic beauty standards. Additionally, most participants also engage in self-reflection to help them understand that the act of selfies does not depict how individuals would look in real life therefore helping them be more kind to themselves and put less pressure on themselves. They also realized how most influencers on social media are presenting an idealized version of themselves, reminding them to be more forgiving towards themselves when they engage in comparisons. Lastly, they also use self-compassion to set realistic expectations for themselves and respond with self-kindness when they are met with undesired pictures of themselves. Overall, males highlighted that self-compassion helps them feel encouraged, happy, and have a realistic way to deal with their negative thoughts. In contrast, females shared how self-compassion can lead them to feel satisfied with themselves and how God has done miraculous work in their lives in helping them overcome their negative thoughts.

Research Question 4: Lived Experiences of Selfie Editing and Body Dissatisfaction.

In this analysis, we looked at some of the common themes of engaging in selfie editing and the effects of experiencing body dissatisfaction after editing selfies and then categorizing them into genders. Generally, most participants do engage in selfie-editing, but not all participants experience body dissatisfaction afterward. When looking at gender specifics, males describe not experiencing body dissatisfaction after editing their selfies whereas there is almost an even split for females between individuals who feel dissatisfied and those who do not after they edit their pictures.

Selfie Editing Engagement

One of the common themes participants share when engaging in selfie editing is their concern with appearance. Participants expressed a desire to improve their appearance through selfie editing. This is to enhance their online presentation by ensuring the pictures they share are clean and presentable. Some participants mentioned the types of photo editing engagement they are interested in when they want to achieve a clean and presentable picture, such as engaging in the technicality aspect of the pictures, such as adjusting lighting and ensuring the camera quality used is sufficient. On the other hand, some participants reported wanting to create visually appealing images through playing around with the color composition. Regardless, most participants do share the consideration in caring about the outcome of their photos after editing. Next, the decision to engage in selfie editing is also a result of being around other individuals or close friends who engage within these social media platforms, which influences them to experiment with selfie-editing tools and apps. When looking at gender-specific selfie editing engagement themes, most males report using extensive selfie editing makes them appear

disingenuous. In contrast, females describe how selfie editing has led to being more self-conscious about how they look and increase their motivation in wanting to improve their looks.

Body Dissatisfaction After Editing

Several themes regarding experiencing body dissatisfaction after editing have emerged. Some of the themes include dissatisfaction with features, temporary dissatisfaction, and an increase in awareness of features. Some examples of participants experiencing body dissatisfaction include their dissatisfaction with features including acne concerns, skin complexion, body proportions, or outfit choices. Additionally, participants described having temporary dissatisfaction after editing, depending on how the outcome of the editing process left them feeling. If the edited picture looks good, they may not experience dissatisfaction, and if the edited pictures turn out bad, it can lead to dissatisfaction. They also described the editing process as a way to heighten their awareness of their flaws, which contributed to their feelings of dissatisfaction. When examining gender-specific themes, most males describe not having any concern with body dissatisfaction after editing. Those who were dissatisfied with their pictures were usually dissatisfied with the technical aspects of the pictures specifically related to the quality of the photo and camera used. Conversely, females who were dissatisfied after editing described the discrepancy between the edited pictures and how they look in real life. That can contribute to feelings of dissatisfaction. However, females who did not feel dissatisfied after editing described setting some editing criteria that meet their standards when selecting, editing, and posting their selfies. This leads them to be more satisfied with the outcome.

Chapter 5: Discussion

The major aim of this study is to understand gender differences between selfie editing, body dissatisfaction, and self-compassion. To date, there have not been many studies that

evaluated the impact of selfie editing on body dissatisfaction or understood the effects of self-compassion among college students. The first set of hypotheses predicted positive associations between the use and frequency of selfie editing. Some of the findings for the first hypothesis were supported. As predicted, individuals who spend more time taking selfies are likely to have a greater number of selfies. Individuals who also spend more time editing selfies are likely to take a greater number of selfies. In contrast, individuals who spend more time taking selfies also spend more time editing them. When comparing habitual self-report photo manipulation and investment to observed selfie behavior, we can see that self-photo manipulation and investment were related to the number of selfies taken, which is similarly reported by Tiggemann et al. (2020a). Together, these findings add to our understanding of the association between the use and frequency of selfie editing among college students, suggesting that individuals who engage more frequently with editing tools spend more time engaging with their selfies. Future studies should investigate how personality traits influence the level of body image concerns related to habitual selfie-taking and editing behaviors.

Results shed light on the relationship between gender, photo-based behaviors, and body dissatisfaction. Mann-Whitney U analyses indicated that females score more in all variables by about 50%. When trying to understand the strength of the relationship between the direction of variables among genders, results showed that males seem to have a strong positive relationship with photo investment and photo-based behaviors whereas females have a strong positive relationship between photo investment, photo manipulation, photo-based behaviors, and body dissatisfaction. Findings contradict Holland & Tiggemann's (2016) study, which found that the relationship between body dissatisfaction and social media use is similar across genders. This may be due to most of the studies they looked at mainly only including Facebook as the main

Social Networking Site (SNS) used (Vandenbosch et al., 2022). Since then, more SNSs have emerged. Aside from that, other SNS platforms like Instagram may cause individuals to engage with it differently than Facebook or Snapchat. Future research should explore the different impacts of body dissatisfaction on the different photo-based social media platforms across genders.

Results supported the third hypothesis that self-compassion acts as a protective factor for individuals experiencing body dissatisfaction and photo-based behaviors. However, the hypothesis was contradicted for self-compassion and photo-based behaviors where the relationship was a positive association instead of an inverse. The contradiction could be explained by other underlying factors that may drive an individual's use of self-compassion. For instance, the differences in motivation behind their photo-based behaviors as it could be a way for them to express themselves, a form of self-care, or a way to connect with others. Other factors like BMI and photo manipulation influence how an individual experiences body dissatisfaction. Therefore, using self-compassion can help mitigate the harmful effects of body dissatisfaction. When comparing the quantitative results to the qualitative results, the findings seem to be aligned. There are indeed some gender differences when it comes to the practice of self-compassion. Females seem to engage more in self-love activities whereas males seem to engage more in problem-solving capabilities.

Additionally, the hypothesis for the image type comparison activity was supported from further exploratory analyses. The participants were more likely to select individuals within the 1 to 5 edit scale, which is considered the acceptable societal standard for having slimmer features. These findings aligned with the definition of thin ideal imagery, which is specifically for individuals who have thin features (Tiggemann, 2003). In bringing selfie-taking and editing into

a laboratory setting, we were able to conduct a detailed examination of the entire selfie process. The mean number of selfies taken before choosing one ($M = 4.12$) is similar across the range of 2 to 5, as reported in the previous studies (Bij de Vaate et al., 2018; Cohen et al., 2018; Tiggemann et al., 2020a). It is important to note that the number of selfies taken was not limited to a certain number of selfies; participants had the freedom to take as many pictures as they wanted. As for the average time used to take a selfie, most participants used about $M = 3.33$ minutes and about $M = 9.3$ minutes out of the given 10 minutes to edit a selfie. It is important to note that the number of selfies taken was not limited to a certain number of selfies, participants had the freedom to take as many pictures as they wanted. Next, the study also explored the most used editing functions for beautifying and basic editing. The most used beautifying editing functions are related to improving skin quality, which is similar to the findings of Tiggemann et al. (2020a). Participants engaged in filters, smoothing skin function, and blemish removal. When looking at gender differences in beautifying editing functions, both males and females tend to use more skin quality-related functions like Filters, Blemish Removal, and Eye Bag Removal. Females tend to use more makeup functions like Brightening Eyes, Smoothing Skin, and Blush Application. On the other hand, when looking at the basic editing functions, participants engaged in more fine-tuning engagements like Exposure, Brightness, Contrast, Highlights, Shadows, and Saturation. When looking at gender differences, females seem to have more engagement with color composition functions like Highlights, Shadows, Saturation, and Light compared to males who focused more on fine-tuning engagement functions. All in all, participants seem to engage more in basic editing functions than beautifying editing functions.

Implication

The findings of this study have significant implications for understanding the impact of self-compassion, photo-based behavior, and body image concerns. Selfies are a common form of behavior every day, especially for women (Boursier et al., 2020; Hu et al., 2014). Therefore, it is crucial to understand the gender differences between the process of selfie-taking and editing and how that may impact one's body image. In bringing selfie-taking and editing into a laboratory setting, we were able to break down the step-by-step process individuals consider when engaging in photo-based behaviors. The qualitative findings also helped inform the findings of gender differences on the impact of selfie editing on their body image. In this sample, most men did not experience dissatisfaction with their body image after editing their pictures, whereas some women did report experiencing body dissatisfaction after editing. This would suggest that there is variability in gender differences in experiencing body dissatisfaction after editing their pictures.

The current study's findings also draw attention to understanding the impact of self-compassion. The positive correlational strength between self-compassion and photo-based behaviors indicated that individuals with higher self-compassion are likely to engage in photo-based behavior. These findings prompt further exploration into the motivations behind individuals with high self-compassion, as engaging in photo-based behaviors could be a way for individuals to express themselves or connect with others. The study found self-compassion to be a buffer for body dissatisfaction as well. Additionally, the study's qualitative aspect suggests that individuals unconsciously engage with self-compassion in different aspects of their lives. Therefore, it is important to help them become aware of the use of self-compassion to help reduce body image concerns.

This study is also important in informing preventative measures to reduce body dissatisfaction after editing. The process of selfie-editing and investment should be discouraged as this may lead to the development of body image concerns and eating disorder pathology. With our study, we can promote the development of social media literacy programs to help individuals realize the harmful impact of editing images and to encourage more naturalistic pictures to be uploaded. Social media literacy is the ability to critique appearance-ideal advertising images about a person's realism and intent, which helps reduce the impact of negative self-perception in young women (Tamplin et al., 2018). Peer social media literacy is the understanding that the motivation of a celebrity or a peer's posting is to be modified and represent their "best self" (McLean et al., 2017). Tamplin et al. (2018) indicated that having low peer social media literacy will more likely cause an individual to evaluate images unrealistically and put pressure on themselves to have a better outcome for their body image. Future clinicians can use the findings in this study to educate others about the importance of social media literacy and implement these findings in their professional practices.

Limitations and Future Directions

Several study limitations should be acknowledged. Due to the homogeneity of the population, most of our participants are Caucasian females from the School of Behavioral Sciences, which may make it difficult to generalize the study's findings. Therefore, further exploration with a more diverse sample size is encouraged to evaluate the extent of the generalizability. Other demographic groups may have different motives or editing behavior that may be different from the findings. Aside from that, more females participated in this study than males, which also makes it harder to generalize the findings to the male population. Moreover, most of the scales used were self-report. However, there was an attempt to compare the self-

reported behaviors on photo investment and manipulation and observed behavior of selfie editing, and some significant relationships between the self-report measures and observed behavior were found despite some methodological constraints that would not be regularly applied like the settings and time to take selfies compared to when engaging in selfie-taking and editing in the real world. Nevertheless, the findings reassured that it was at least somewhat representative of the normal selfie practices.

Next, for qualitative research, there was some confusion with the direction of the interview questions; some interviews removed from the analysis as they did not fully capture what the research question was looking for. Aside from that, there was no control group looking at individuals who did not edit their selfies within the study. The lack of a control group did not provide a baseline of comparison that could help in understanding any confounding variables that may influence the results and a means of testing the reliability of the results in consistency. Therefore, future studies may benefit from including a control group within their study to allow for comparison between groups and enhance the robustness of the findings, which contributes to a better understanding of the effect of photo-based behaviors on body image concerns.

Despite the limitations, this research was one of the earliest attempts to explore the effects of photo-based behavior on social media, with a focus on the U.S. population. Previous studies have been conducted outside of the U.S. (Tiggemann et al., 2020a; Lonergan et al., 2019). This makes a novel contribution to the literature in understanding an aspect of the use of social media, specifically the process and the outcome of selecting, taking, and editing selfies. While the findings in this study indicated that students at Liberty University are mostly concerned with being too thin, future studies should explore the relationship between thin body

image concerns to understand the impact further and compare it to other factors. Thus, the findings also provided support for the impact of self-compassion on body image concerns.

Conclusion

The present study has added to the limited research attempting to compare gender differences between both genders, specifically in selfie editing, taking, and posting, as well as observing its relation to body dissatisfaction. This study is also one of the first attempts to capture the process of photo-based behaviors, specifically selfie-related behaviors, in the United States. By developing this approach from a previous design, this study was able to apply valuable insights that can inform educators, mental health professionals, and individuals in fostering a more compassionate relationship with body image and social media usage and, ultimately, raising awareness of the potential impact of social media on BD through promoting and providing guidance towards developing healthier approaches to combat unhealthy body image and social media engagement. Future research should replicate the impact of this study and investigate which specific self-compassion practice is more effective in reducing dissatisfaction and comparison among individuals.

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