Role of Self-Monitoring and Social Appearance Anxiety in the Relationship Between Photo Editing and Social Withdrawal

Fotoğraf Düzenleme ile Sosyal Geri Çekilme Arasındaki İlişkide Öz-İzleme ve Sosyal Görünüş Anksiyetesinin Rolü

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ABSTRACT

Nowadays, with the widespread use of social media, the use of Photoshop is also increasing. This creates a space for people to present their best selves. Individuals applying too much Photoshop to their photos on social media are seen as an indicator of their desire to be approved by others. People monitor and regulate themselves in line with the social selves they want to show. The purpose of this study is to investigate how self-monitoring and photo editing behaviors reflect people's evaluations of their appearance and how this relationship will be reflected in social withdrawal. The participants of the study consisted of 420 female participants. The hypotheses of the study were tested using the moderated mediation model and the mediation model for indirect effect. According to the results of the study, it was observed that the predicted indirect effect of social appearance anxiety on the relationship between photo editing behavior and social withdrawal did not have a significant effect under the moderating role of self-monitoring (moderated mediation) (b = .02, SE = .01, z = 1.22, p = .222; 95% CI [–.01,.04]). However, in the mediating role of social appearance anxiety, the indirect effect of photo editing behavior on social withdrawal was found to be significant (b =.03, SE = .01, z = 5.11, p < .001; 95% CI [.02,.03]). Therefore, it has been observed that people who resort to high rates of photo editing behavior experience social appearance anxiety and, as a result, exhibit high rates of social withdrawal behavior. Considering that negative body image causes negative health-related consequences, the study is expected to contribute to the consequences of excessive Photoshop use. Considering the prevalence of social media today, we expect the results of the study to provide new information to understand the effects of social media.

Keywords: Photo editing, photoshop, self-monitoring, social withdrawal, social appearance anxiety

ÖZ

Günümüzde sosyal medya kullanımının yaygınlaşması ile beraber photoshop kullanımı da artış göstermektedir. Bu durum insanlara kendi benliklerini en iyi şekilde sergilemeleri için bir alan yaratmaktadır. Bireylerin sosyal medyada fotoğraflarında çok fazla photoshop uygulamaları başkaları tarafından onaylanma isteklerinin bir göstergesi olarak görülmektedir. Kişiler göstermek istedikleri sosyal benlikleri doğrultusunda kendilerini izleyip düzenleme yaparlar. Bu çalışmanın amacı da öz-izleme ve fotoğraf düzenleme davranışlarının kişilerin görünüşlerine yönelik değerlendirmelerine nasıl yansıdığı ve bu ilişkinin sosyal geri çekilmeye nasıl yansıyacağını araştırmaktır. Çalışmanın katılımcıları 420 kadın katılımcıdan oluşmuştur. Çalışmanın hipotezleri yönetici-aracı (moderated mediation) model ve dolaylı etki için aracılık (mediation) modeli kullanılarak test edilmiştir. Çalışmanın sonuçlarına göre; sosyal görünüş kaygısının fotoğraf düzenleme davranışı ve sosyal geri çekilme arasındaki ilişkide öngörülen dolaylı etkisinin, öz izlemenin düzenleyici rolü altında anlamlı bir etkisinin olmadığı görülmüştür (b = ,02, SH = ,01, z = 1,22, p = ,222; %95 CI [–,01, ,04]). Ancak sosyal görünüş kaygısının aracılık rolünde, fotoğraf düzenleme davranışının sosyal geri çekilme üzerindeki dolaylı etkisi anlamlı bulunmuştur (b = ,03, SH = ,01, z = 5,11, p < ,001; %95 CI [,02, ,03]). Dolayısıyla yüksek oranda fotoğraf düzenleme davranışına başvuran kişilerin sosyal görünüş aksiyetesi yaşadıkları ve bunun sonucunda yüksek oranda sosyal geri çekilme davranışı sergiledikleri görülmüştür. Olumsuz beden algısının sağlık ile ilişkili olumsuz sonuçlar doğurduğu göz önüne alındığında çalışmanın aşırı photoshop kullanımının sonuçlarına dair katkılar sağlaması beklenmektedir. Günümüzde sosyal medyanın yaygınlığı dikkate alındığında çalışmanın sonuçlarının sosyal medyanın etkilerini anlamak için de yeni bilgiler sağlamasını beklemekteyiz.

Anahtar sözcükler: Fotoğraf düzenleme, photoshop, öz izleme, sosyal geri çekilme, sosyal görünüş kaygısı

Introduction

The need for human communication and the increasing use of social media with evolving technology are well-known (Solmaz et al. 2013). In virtual environments of social media, individuals tend to reflect the version of themselves they believe will receive approval from their surroundings or match their ideals. In these social spaces, individuals strive to present their ideal selves, fundamentally seeking approval from their society, environment, and peers. It is believed that individuals, when they perceive a lack of approval, may experience anxiety, leading to increased social withdrawal and loneliness.

This study aims to examine the role of social appearance anxiety and self-monitoring in the relationship between photo editing behavior and social withdrawal. It is hypothesized that social appearance anxiety will mediate the relationship between photo editing behavior and social withdrawal. Additionally, self-monitoring is considered to have a mediating role between photo editing behavior and social appearance anxiety. Photo editing behavior involves modifications made to photos shared on social media due to facial and body dissatisfaction. Social appearance anxiety is based on experiences stemming from negative body image. The effort to regulate behaviors by considering the social environments individuals are in is explained through the concept of self-monitoring. Lastly, social withdrawal encompasses the need for social approval as a sub-dimension, seeking positive responses from the surrounding environment and adjusting behavior accordingly.

Social media provides opportunities for presenting our best selves. With the frequent use of social media in today's world, the concept of image manipulation has found its place in our lives. Through these means, individuals have the opportunity to present themselves as more groomed, younger, or flawless (Ege 2017). Additionally, on social media, individuals can shape their identities as they wish, hiding their mistakes and physical imperfections with the help of Photoshop (Alanka and Cezik 2016). To the extent that, when photos are visually examined, it is often not even noticeable that corrections have been made (Harrison and Hefner 2014).

It has been found that engaging in photo manipulation on social media is associated with facial dissatisfaction (Beos et al. 2021). In a longitudinal study conducted with adolescents, the frequency of editing their selfies was determined to be linked to an increase in facial and body dissatisfaction six months later (Wang et al. 2021). In another study, it was observed that women who edited their photos before sharing them mostly displayed body image dissatisfaction, and there was an association between self-image manipulation and high body anxiety (Pham et al. 2022). In another study, it was identified that adolescents, particularly girls, who extensively use social media during adolescence are not satisfied with their bodies. An increase in body dissatisfaction was observed in these individuals due to feedback received from their peers (De Vries et al. 2016). Therefore, it is understood that the behavior of photo editing is associated with individuals' negative attitudes towards their appearances.

Human beings engage in communication and act based on their emotions. In this regard, individuals are concerned about how they are perceived by those they communicate with and what others think about them. Questions about how one looks, communicates, and is perceived by the society they live in can give rise to anxiety in individuals. Anxiety is a negative emotion that emerges in certain times in one's life, shaped by environmental and genetic factors, and manifests as physical symptoms, adversely affecting one's life. Throughout their lives, individuals experience anxiety in various aspects, and one of these areas is social appearance anxiety (Özden et al. 2013).

Social appearance anxiety arises from a negative body image. Body image is a part of the self-perception that encompasses many aspects related to the individual. When negative thoughts about body image, which refers to the thoughts, behaviors, and perceptions related to one's own body, emerge, individuals experience anxiety. This anxiety is referred to as social appearance anxiety. Body perception is a component of a person's self-concept. Self-concept is the overall perception that individuals have about themselves, either directly or indirectly, positively or negatively. Individuals with low body satisfaction, meaning they have negative perceptions about their entire body or any part of it, feel uncomfortable, do not find themselves attractive, and feel ashamed of any part of their body they perceive negatively. Subsequently, they start trying to compensate for the perceived deficiency by engaging in more aesthetic practices, applying makeup, and dealing with the physical appearance they dislike. Moreover, appearance anxiety increases due to comparisons with others. As a result, it negatively affects the individual's social relationships by leading to withdrawal from social environments, difficulty in self-expression, and avoidance of forming relationships (Göksan 2007).

Anxious individuals are concerned about how they will be evaluated by others and seek approval from society. Studies on social approval and social anxiety indicate that individuals have a need for approval and concerns about not receiving approval (Çalış 2020). It has been reported that making a positive impression on others is crucial, and anxiety tends to increase when there is a perceived lack of this positive impression. One coping mechanism individuals resort to when they feel they are not receiving approval from society is to distance themselves and reduce their social interactions (Gümüş 2006).

Social media has provided a platform for the emergence of desires for approval and validation in individuals. On social media, the desire for approval allows individuals to create a new identity and even the opportunity to reflect an idealized version of themselves. In this way, social media has become a platform where individuals focus on creating a new persona, gaining new perceptions, and entirely emphasizing how they appear externally. A meta-analysis study on women's body perception in the media concluded that after being exposed to thin and idealized body images, women tend to negatively perceive their own bodies (Groesz et al. 2002). It has been found that individuals experiencing negative perceptions of their own physical appearance also experience social appearance anxiety (Çalış 2020). In another study, it was observed that adolescents' body dissatisfaction increased as a result of feedback received from their peers (De Vries et al. 2016). It is evident that negative thoughts about individuals' body images lead to anxiety about their appearances. Additionally, it is believed that attitudes towards body images may be influenced by self-monitoring as well.

Self-monitoring is primarily recognized as a concept associated with self-presentation in social relationships (Koç, 2015). The concept of self-monitoring was initially introduced by social psychologist Snyder who explained individual differences in self-monitoring as a form of self-presentation. With this concept, Snyder emphasized individuals' attention to external cues, their importance, and the utilization of this information in guiding their personal behaviors (Snyder 1974, 1994). Individuals engaging in social interaction enter a process of self-monitoring and adjustment based on the social context in which they find themselves.

The concept of self-monitoring suggests that the self we present is changeable, meaning individuals can have different selves. Accordingly, different aspects of the self can be exhibited in different situations. Beyond being a structure of the self, this concept can also be considered a social skill and a personality trait. In a broader sense, the concept of self-monitoring is an orientation in which individuals generally produce temporary attitudes and behaviors by focusing on the thoughts and feelings of others. The fundamental motivation for individuals is to gain acceptance for themselves (Koç 2015).

Individuals are divided into two categories based on their levels of self-monitoring: those with low self-monitoring and those with high self-monitoring. Individuals with high self-monitoring tendencies tend to display more socially acceptable behaviors when viewed from a social perspective. They are individuals who regulate themselves in line with social norms. These individuals generally have an anxious mood and constantly feel the need for approval. In contrast, those with low self-monitoring tendencies adopt a more indifferent attitude towards social cues. They are less concerned about whether their behavior is socially appropriate or not. Therefore, they act more in accordance with their own beliefs and attitudes. Unlike individuals with high self-monitoring, these individuals are more in harmony with their identities and do not create a false identity for themselves (Lennox and Wolfe 1984).

Given the anticipated relationship between self-monitoring, which is a part of self-presentation, and photo editing behavior, this study considers the impact of photo editing behavior and self-monitoring on social appearance anxiety. Additionally, it is thought that the anxiety individuals experience could affect their social life, leading to withdrawal.

The reactions individuals receive from their surroundings play a significant role in shaping their behaviors. As social beings, people have a need to be appreciated, valued, and approved by their environment. A crucial factor that induces a change in people's behavior is the need for social approval. Seeking others' admiration, expecting praise, wanting to be accepted as a good person, and desiring applause from those around are related to the need for social approval (Karaşar and Öğülmüş 2016). The need for social approval not only facilitates individuals' socialization and closeness but also influences the direction of their lives according to the expectations and desires of others. It can lead to the behavior of conforming to those with whom one interacts (Çalış, 2020). Individuals with a high need for social approval tend to behave more adaptively, sympathetically, and cautiously towards their surroundings. Moreover, they are more inclined to exhibit and sustain behaviors that are approved by their environments and cultures (Paulhus and John 1998).

The need for social approval has three sub-dimensions. The first is sensitivity to the judgments of others, the second is social withdrawal, and the third is leaving a positive impression (Karaşar and Öğülmüş, 2016). The use

of social media has various effects on the need for social approval and also plays a triggering role in the distortion of body image. Individuals sharing videos and photos on social media are noticeable reflections of the need for approval from others (Kurtyiğit 2021). Studies have observed a relationship between the sub-dimension of social withdrawal, a component of the need for social approval, and the body image of Instagram users. It has been reported that individuals with high dissatisfaction with their bodies prefer social withdrawal and have difficulty forming social relationships (Kurtyiğit 2021). As body image satisfaction decreases, the need for sensitivity to the judgments of others increases, while the need for leaving a positive impression and social withdrawal decreases.

It has been identified that the increase in social media usage is associated with an increase in the need for social approval. A significant relationship between social media use and social withdrawal has been indicated. It has been observed that the level of social withdrawal increases with the rise in virtual tolerance and virtual communication (Çalış 2020). Considering the relationship between social media and social withdrawal, curiosity arises about whether photo editing on social media is related to social withdrawal. While trying to understand this relationship, there is also curiosity about the potentially mediating role of individuals' social appearance anxieties. Additionally, in this study, the question of whether individuals' self-monitoring in the context of their photo edits is a factor in their relationships with social anxieties has also been taken into account.

In the context of this study, the hypotheses and proposed model are as follows: There is a positive relationship between photo editing motivation and social appearance anxiety (H1). Social appearance anxiety is positively related to social withdrawal (H2). Social appearance anxiety has an indirect effect on the relationship between photo editing and social withdrawal (H3). The self-monitoring trait plays a moderating role in the relationship between photo editing motivation and social appearance anxiety. Especially for individuals exhibiting high levels of self-monitoring behavior, the relationship between photo editing and social appearance anxiety is expected to be positive and significant (H4). Self-monitoring has a moderating role in the indirect effect of social appearance anxiety on the relationship between photo editing and social withdrawal (H5).
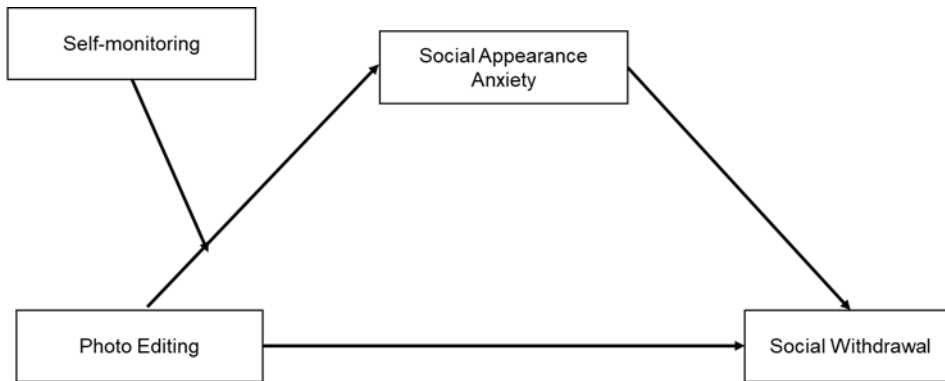

Figure 1. Proposed model: The effect of photo editing desire on social withdrawal through social appearance anxiety under the moderating effect of self-monitoring

Method

Sample

The study included a total of 406 female participants. The average age is 22.4 for the 249 participants who provided their age information (SD = 3.19). It is observed that the number of participants indicating their age is relatively low in the overall participant pool. Since the study data were collected from online data collection platforms, the option to mandatory fill in demographic information was overlooked. Therefore, the scarcity of responses to demographic questions is generally observed in studies conducted in this manner.

Procedure

Before starting the study, ethical approval was obtained from the Bingöl University Social and Human Sciences Scientific Research and Publication Ethics Board on 03.01.2023 with the approval number E.88982. The data for the study were collected using the online data collection tool Qualtrics by researchers affiliated with Bingöl University under the TUBITAK project within the campus. In the online data collection tool, each scale was

presented on a separate screen, resulting in a total of 5 screens. The study, considering all scales, comprised 57 items. Additionally, the study was completed in an average of 15 minutes. Except for demographic questions, the completion of all other scales was mandatory, and there was no option to go back between scales.

Measures

Demographic Information Form

This form includes questions about participants' age, gender, education, and the relationship between social media and photo experience.

Photo Editing Scale

This scale was adapted for this study from the scale previously used by McLean et al. (2015). The scale items assess the extent to which individuals edit or modify their own photos before sharing them. Items are rated on a 5-point Likert scale (1 = Never, 5 = Always). The scale consists of 10 items. The Cronbach's alpha coefficient for the scale is reported as .85. An example item is "I edit my photos to hide blemishes like pimples." Higher scores indicate a higher degree of photo editing. The scale was adapted into Turkish for this study, and its internal consistency coefficient was observed to be (α =.81).

Social Approval Scale

The social approval scale developed by Karaşar and Öğülmüş (2016) is rated on a 5-point Likert scale (1-Strongly Disagree, 5-Strongly Agree). The scale, consisting of a total of 25 items, has three subscales: sensitivity to the judgments of others, social withdrawal, and leaving a positive impression. In line with the theoretical context of the study, only the social withdrawal subscale was used. The Cronbach's alpha coefficient for this subscale in the original study was reported as .80), indicating high internal consistency. High scores on this scale suggest an increased need for social approval. An example item is "I hide my negative feelings for fear of not being approved." In this study, the internal consistency coefficient of the social withdrawal subscale was found to be (α = .76).

Social Appearance Anxiety Scale

The scale developed by Hart et al. (2008), consists of 16 items and has been adapted into Turkish by Doğan (2010). The Cronbach's alpha internal consistency coefficient for this scale is reported as .93, indicating high reliability. The scale items are rated on a 5-point Likert scale (1 = Strongly disagree, 5 = Strongly agree). An example item is "I feel comfortable with my appearance." High scores on the scale indicate a high level of body image concern. In this study, the internal consistency coefficient of the scale was found to be (α = .95).

Self-Monitoring Scale (Self-Adjustment Scale)

It is an adapted version of the scale revised by Türetgen and Cesur (2006), based on Lennox and Wolfe's (1984) work. The scale consists of 13 items, and responses are rated on a 6-point Likert scale (0 = definitely, always wrong, 5 = definitely, always right). The reported Cronbach's alpha coefficient for the scale is .80, indicating good internal consistency. High scores on this scale reflect a high level of self-adjustment ability. An example item is "I notice that I can adjust my behavior to meet the requirements of any situation I am in." In this study, the internal consistency coefficient for the scale was observed to be (α = 0.78).

Analysis Strategy

Although the study aimed to test the proposed model, the Turkish adaptation of the scale for the photo editing variable in the relevant model has not been conducted previously. Therefore, the available data were randomly divided into two groups, with one half used for adapting the photo editing scale and the other half for testing the model. IBM SPSS 25 and Jamovi statistical programs were used for the analyses. Prior to the analysis processes, data cleaning procedures (handling missing data, outliers, descriptive statistics) were performed. Initially, 489 individuals started filling out the study scales. However, 59 participants either never started or left the scales unfinished. Additionally, 10 participants identified as male in terms of gender. Thus, a total of 69 individuals were excluded from the study data, and the analysis continued with the remaining 420 individuals.

Moreover, participants who did not complete all the scales and those who did not identify themselves as female, as the targeted sample of the study was female participants, were excluded from the data. In order to maintain a healthy inference, outliers were removed through univariate and multivariate outlier analyses, resulting in the elimination of 6 multivariate and 8 univariate outliers due to the disruption of normal distribution.

In the first randomly divided group, there were 190 individuals (M = 21.9, SD = 2.79), while the second group consisted of 216 individuals (M = 22.7, SD = 3.47). As the data were mostly collected from university students, undergraduate students predominated in both groups, with 142 participants in the first sample and 167 participants in the second sample being undergraduate students. The first data group was used for the exploratory factor analysis and reliability testing of the photo editing scale, while the second data group was employed for the confirmatory factor analysis and testing the model of the study. The data cleaning process, including outlier checks, was conducted before the data split.

Statistical Analysis

The relevant analyses in the study were conducted using IBM SPSS 25 and Jamovi statistical programs. Descriptive statistics such as mean and standard deviation, reliability coefficients, and exploratory factor analysis for scale adaptation were performed using IBM SPSS 25. The accuracy of the adapted scale's item distribution and the analysis of the proposed path model were conducted using the Jamovi program. Pearson correlation analysis was used to evaluate the relationships between variables. In the model, photo editing behavior was defined as the independent variable, social withdrawal as the dependent variable, and social appearance anxiety was structured as the mediating variable between photo editing behavior and social withdrawal. Self-monitoring behavior was included in the model as a moderation variable between self-monitoring and the interaction effect of photo editing behavior on social appearance anxiety. The model's hypothesized interaction effect of self-monitoring with photo editing behavior on social appearance anxiety, and the mediation effect of social appearance anxiety on the relationship between photo editing behavior and social withdrawal, were tested using Path Analysis. Finally, the indirect effect of photo editing behavior on social withdrawal through the mediation of social appearance anxiety was reported using Mediation Analysis.

Results

Testing the Psychometric Properties of the Photo Editing Scale

The Photo Editing Scale (McLean et al. 2015) was adapted to Turkish within the scope of this study. Firstly, the translation-back translation method was applied for linguistic adaptation. The scale items, translated into Turkish by two language experts, were translated back into English by other two experts. The final form was given considering the integrity of meaning in these translations. After the translation work of the Photo Editing Scale, data for the study were collected through online data collection tools with the informed consent of the participants. Additionally, within the scope of adaptation, reliability was ensured by collecting data from at least five individuals per item, and to assess criterion and construct validity, correlations with relevant scales were examined. Exploratory and confirmatory factor analyses were conducted for construct validity.

Findings Regarding Construct Validity

Exploratory Factor Analysis

The data, which included 190 people (M = 21.9, SD = 2.79) from the previously randomly separated data, was used for the construct validity of the photo editing scale. Exploratory factor analysis principal component method was used to determine the factor loadings of the photo editing scale. In factor analysis, the results of Kaiser-Meyer-Olkin (KMO) = .774 and Bartlett's sphericity test ($\chi2$ = 531.794, p < .001) show that the sample size is sufficient and it is appropriate to perform factor analysis. As a result of the analysis, 2 factors with eigenvalues above 1 were obtained, explaining 52.22% of the total variance. However, since the common loadings between the two factor loadings were close to each other and the original scale preferred a single-factor structure, the analysis was re-done to create a single-factor structure. It was found that the single-factor structure explained 37.01% of the variance. Item loadings and relevant values are shown in Table 1.

Confirmatory Factor Analysis

The accuracy of item distribution was tested by performing confirmatory factor analysis using the JAMOVI program. As a result of the confirmatory factor analysis, values ($\chi2$ (35, N = 216) = 200, p < .001, $\chi2 / df$ = 5.71, TLI = .65, CFI = .73, RMSEA = .14) were obtained. Since the fit indices were not at an acceptable level, covariance was added to the error variances of some items. First, covariance was added between the items "Edit to hide blemishes like pimples" and "Edit or use apps to smooth skin" ($\chi2$ (34, N = 216) = 160, p < .001, $\chi2 / df$ = 4.70, TLI = .73, CFI = .79, RMSEA = .13). The second correction was made between the items " Use a filter to change

the overall look of the photo, e.g., making it black and white, or blurring and smoothing images" and "Adjusting the light/darkness of the photo" ($\chi 2$ (33, N = 216) = 136, p < .001, $\chi 2$ / df = 5.71, TLI = .77, CFI = .83, RMSEA = .12). The third correction was applied to the items "Make yourself look skinnier" and "Make specific parts of your body look larger or look smaller" ($\chi 2$ (32, N = 467) = 117, p < .001, $\chi 2$ / df = 5.71, TLI = .80, CFI = .86, RMSEA = .11). In the fourth correction, covariance was added between the items "Get rid of red eye" and "Highlight facial features, e.g., cheekbones or eye colour/brightness" ($\chi 2$ (31, N = 216) = 106, p < .001, $\chi 2$ / df = 5.71, TLI = .82, CFI = .88, RMSEA = .10). Another correction was that covariance was added between the items "Use a filter to change the overall look of the photo, e.g., making it black and white, or blurring and smoothing images" and "Edit or use apps to smooth skin" ($\chi 2$ (30, N = 216) = 98.3, p < .001, $\chi 2$ / df = 3.28, TLI = .83, CFI = .89, RMSEA = .10). Finally, covariance for correction was added between "Use a filter to change the overall look of the photo, e.g., making it black and white, or blurring and smoothing images" and "Edit to hide blemishes like pimples" ($\chi 2$ (29, N = 216) = 87, 9, p < .001, $\chi 2$ / df = 3.03, TLI = .85, CFI = .90, RMSEA = .09).

In structural equation models, acceptable fit index criteria ($\chi 2$ / df = 2 ≤ $\chi 2$ / df ≤3, TLI = .90 ≤ TLI ≤ .95, CFI = .90 ≤ CFI ≤ .95, RMSEA = .05 ≤ RMSEA ≤ .08) has been stated (Bollen 1990, Hooper et al. 2008, Hu and Bentler, 1999, Kline 2011). As a result of these covariance additions, it was seen that the fit indices of the model reached an acceptable level. The confirmatory factor analysis fit index of the model is shown in Table 2. The final version of the model is shown in Figure 1.

Table 1. Structure of factors and factor loadings with exploratory factor analysis	
	Factor 1
Eigenvalues	3.70
Variance	%37.01
Cronbach's Alpha	.80
1. Get rid of red eye.	.53
2. Make yourself look larger.	.55
3. Highlight facial features, e.g., cheekbones or eye colour/brightness	.70
4. Use a filter to change the overall look of the photo, e.g., making it black and white, or blurring and smoothing images.	.54
5. Make yourself look skinnier.	.63
6. Adjusting the light/darkness of the photo.	.44
7. Edit to hide blemishes like pimples.	.64
8. Whiten your teeth.	.66
9. Make specific parts of your body look larger or look smaller	.70
10. Edit or use apps to smooth skin	.65

Table 2. Confirmatory factor analysis fit indices						
	$\chi 2$	$\chi 2$/df	p	TLI	CFI	RMSEA
Model 1	200	5.71	< .001	.65	.73	.15
Model 2	160	4.71	< .001	.73	.79	.13
Model 3	136	4.12	< .001	.77	.83	.12
Model 4	117	3.65	< .001	.80	.86	.11
Model 5	106	3.42	< .001	.82	.88	.10
Model 6	98.3	3.28	< .001	.83	.89	.10
Model 7	87.9	3.03	< .001	.85	.90	.09

Criterion Validity

For criterion validity, the relationship between the photo editing scale and other variables was examined. There was a significant positive relationship between the photo editing scale and social appearance anxiety (r = .36, p < .001) as well as social withdrawal (r = .20, p = .003). Accordingly, individuals who experience appearance-related concerns were observed to have higher motivation to edit their photos. It was also found that individuals who are reluctant to receive negative reactions prefer to edit their photos. However, a negative significant relationship was found between photo editing and self-monitoring (r = -.13, p = .008). Therefore, individuals with high photo editing behavior seem to have lower abilities to adjust their behaviors according to the social context. The results of correlation values are presented in Table 3.

Scale Reliability

To test the reliability of the scale, the reliability similarity between two randomly split datasets was examined. In the dataset where exploratory factor analysis was conducted, the reliability coefficient of the photo editing

scale was measured as .80, while in the dataset where confirmatory factor analysis was performed, it was found to be .81. Therefore, the reliability of the scale appears to be at a sufficient level in both datasets. Table 3 presents the descriptive statistics of the variables, internal consistency scores, and correlations between the variables..

Table 3. Correlations, descriptive statistics, and reliability coefficients

Variables	1	2	3	4
1. Anxiety	(.95)			
2. Self-monitoring	-.16**	(.78)		
3. Photo Editing	.36***	-.13**	(.81)	
4. Withdrawal	.65***	-.15**	.203***	(.76)
Mean	2.19	4.00	19.7	2.49
Standart deviation	.82	.62	6.45	.66

Correlations represent all data; Reliability coefficients are shown in parentheses.
n = 406. *p < .05, **p < .01, ***p < .001

Relationship between Photo Editing and Various Variables

When examining how the photo editing behavior of the participants in the study differs in terms of the item "I do not share the pictures I take without making edits", it was found that those who answered yes (M = 23.1, SD = 6.65) preferred to make more edits than those who answered no (M = 17.4, SD = 5.24), t (347) = 8.86, p < .001.

When examining how the photo editing behavior of the participants in the study differs in terms of the item "I like myself and my pictures after making edits on the pictures I take", it was found that those who answered yes (M = 21.8, SD = 6.62) stated that they liked the photos they edited more than those who answered no (M = 17.1, SD = 5.25), t (347) = 7.30, p < .001.

There was a positive relationship between photo editing behavior and checking social media (r = .19, p < .001). It is understood that people who frequently check their social media edit their photos more. There was no significant relationship between computer or phone/tablet usage time and photo editing (r = .07, p = .17). A positive relationship was observed between sharing photo on social media and photo editing behavior (r = .28, p < .001). Therefore, it seems that people who care about photo sharing also care about photo editing. There was a positive relationship between liking photos shared on social media and photo editing (r = .25, p < .001). Hence, as people's likes increase, their photo sharing also increases. There was no significant relationship between avoiding uploading photos on social media and editing photos (r = .25, p < .001). Photo editing behavior and its relationship with relevant variables are presented in Table 4.

Table 4. Photo editing and its relation to related variables

Variables	1	2	3	4	5	6
1. Photo editing	—					
2. Control	.19***	—				
3. Time	.07	.35***	—			
4. Sharing	.28***	.31***	.17**	—		
5. Like	.25***	.20***	.09	.28***	—	
6. Avoiding	-.06	-.18**	-.04	-.48***	-.03	—

* p < .05, ** p < .01, *** p < .001
1. Photo editing behavior
2. How often do you check your social media during the day?
3. Please indicate on the scale how long a day you use a computer and phone/tablet outside of necessity (schoolwork, homework, work)?
4. How often do you share your photos on social media?
5. How important is the number of likes of the photos you share on social media to you?
6. Do you avoid posting photos of yourself on social media?

Testing the Hypothesized Model

Sample

It has been stated that the number of parameters * 10 or at least 200 people should be taken into account in path analysis (Jackson, 2003). Due to this sampling criterion, this criterion was taken as basis in determining the sample size for partitioning big data.

Testing the Model

The model created for the research hypotheses was tested through Path Analysis in Jamovi. In the model, motivation to change photos is defined as the independent variable, social withdrawal as the dependent variable, social appearance anxiety as the mediating variable, and self-monitoring as the moderating variable. The model of the research is presented in figure 2. The model tested the mediating role of social appearance anxiety, desire to edit photos, and the interaction effect of self-monitoring on social withdrawal using moderated mediation analysis. The analysis results of the study's hypotheses are presented below;

H1: A significant positive relationship was found between photo editing motivation and social appearance anxiety (b = .05, SE = .01, z = 5.56, p < .001; 95% CI [.03, .06]). Therefore, the regression finding regarding the relationship between photo editing and social appearance anxiety supported H1.

H2: Social appearance anxiety was found to be positively related to social withdrawal (b = .56, SE = .04, z = 12.22, p < .001; 95% CI [.46, .64]). The regression finding regarding the relationship between social appearance anxiety and social withdrawal supported H2.

H3: Social appearance anxiety was found to have a significant indirect effect on the relationship between photo editing and social withdrawal (b = .03, SE = .01, z = 5.11, p < .001; 95% CI [.02, .03]). Therefore, the indirect effect finding regarding the role of social appearance anxiety in the relationship between photo editing and social withdrawal supported H3.

H4: The moderating effect of self-monitoring between photo editing motivation and social appearance anxiety was not significant (b = .02, SE = .01, z = 1.23, p = .219; 95% CI [-.01, .04]). Therefore, the finding of the moderating effect of self-monitoring on the relationship between photo editing and social appearance anxiety showed that H4 was not supported.

H5: It was observed that self-monitoring and social appearance anxiety had no moderating effect on the indirect effect of the relationship between photo editing and social withdrawal (moderated mediation) (b = .02, SE = .01, z = 1.22, p = .222; 95% CI [–.01, .04]). Therefore, there was no difference between the indirect effects revealed at low and high levels of self-monitoring. As a result, the regression findings regarding the moderating effect of self-monitoring and social appearance anxiety on the indirect effect of the relationship between photo editing and social withdrawal showed that H5 was not supported. The model and its non-standard values are presented in Figure 2.
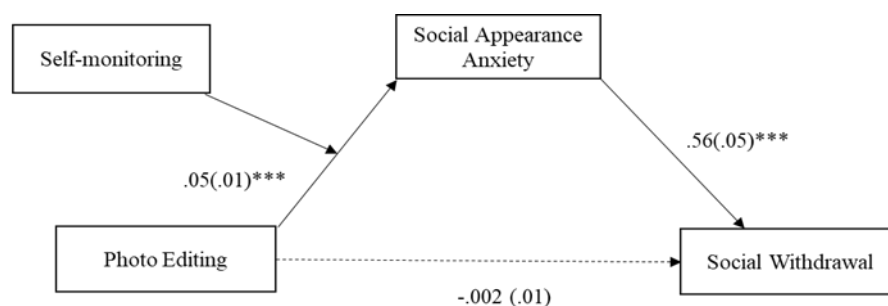

Figure 2. Shows the effect of photo editing desire on social withdrawal mediated by social appearance anxiety under the moderating effect of self-monitoring.
Numbers refer to non-standardized regression scores. *p<.05, **p<.01, ***p<.001
----- shows a non-significant relationship.

Discussion

This study is based on testing the photo editing scale and research model. For these processes, the data of the study were randomly divided, with one part being used for the adaptation of the photo editing scale and the other part serving the purpose of testing the model.

The adaptation of the photo editing scale was examined in terms of factor structure, reliability, and validity features. The scale was evaluated as unifactorial, consistent with its original version. The items of the scale revealed a pattern in exploratory factor analysis that formed a single factor. However, in confirmatory factor analysis, the fit indices were found to be insufficient. Nevertheless, fit indices were improved by adding the suggested error covariances among the items. The reliability level of the scale was determined to be acceptable at (.80). The original scale's Cronbach's alpha coefficient was reported as .85 (McLean et al., 2015). In the context

of adaptation, the validity of the scale was assessed by examining its relationship with relevant measures. It was observed that there is a positive relationship between photo editing motivation and social appearance anxiety. Therefore, individuals who do not feel comfortable with their external appearance are willing to make adjustments to their appearance to compensate for this. Similarly, a positive relationship was found between photo editing and social withdrawal. This implies that individuals who desire to edit their photos are those who pay attention to their surroundings, have a need for approval, and fear rejection. They tend to withdraw to avoid negative situations. Additionally, a negative relationship was observed between the desire for photo editing and self-reflection ability. Individuals with low skills in adjusting their behavior according to their surroundings were found to have a higher desire for photo editing. Thus, the relationships between the variables used in the study and photo editing appear to be sufficient for the criterion validity of the scale.

Within the research model, it was observed that self-reflection does not have a significant moderating role between photo editing motivation and social appearance anxiety. Additionally, while the model shows a significant positive relationship between photo editing motivation and social appearance anxiety, no significant relationship was observed between social appearance anxiety and self-reflection. This is consistent with a study that previously indicated a positive relationship between social anxiety and photo editing behavior (Mustafa and Akram, 2022). According to Mowrer's (1951) two-factor theory, the relief from avoiding fears serves as a reinforcer, leading to subsequent resorting to avoidance as a solution in later encounters. Therefore, it should be considered that the relationship between photo editing and anxiety may operate in the opposite direction.

Furthermore, there is a negative relationship between photo editing behavior and self-reflection. In other words, individuals who are uncomfortable with their appearance and want to edit their photos tend to adjust their behavior less according to the social environment. Spending too much time on and editing photos used on social media has been shown to be associated with negative body image (Grogan, 2016; Holland and Tiggemann, 2016). Therefore, individuals concerned about their image prefer to edit their photos, while those adjusting their behaviors according to the social environment prefer less editing of their photos.

Within the research model, the hypothesized indirect effect of photo editing on withdrawal through social appearance anxiety at different levels of self-reflection did not show significant results. When examining the values of the indirect effect in the hypotheses, it can be observed that the value for the effect in H3 (b = .03, SE = .01) is almost identical to the values of the indirect effects for low (b = .02, SE = 0.01) and high (b = .03, SE = .01) levels of self-reflection. Therefore, it can be suggested that, independently of the influence of self-reflection, social appearance anxiety indirectly explains the relationship between photo editing and social withdrawal.

Despite the absence of a significant relationship between the desire for photo editing and social withdrawal within the model, the indirect effect of the desire for photo editing on social withdrawal through social appearance anxiety is found to be significant. Therefore, individuals who wish to make corrections in their photos seem to experience concerns about their appearance, leading them to prefer social withdrawal as a result. It has been reported that negative self-perceptions and the fear of negative evaluation result in social withdrawal (Paxton, 2016). Social anxiety has been found to be associated with social withdrawal, and this condition is further related to lower levels of friendship and closeness (Biggs et al., 2012). Thus, as supported by this study, it appears that social appearance anxiety leads to withdrawal due to the fear of social rejection. These findings also align with the two-factor theory (Mowrer, 1951) prominent in anxiety literature. It is anticipated that someone who edits their photos to reduce social anxiety would, in fact, create a more desirable image instead of withdrawing socially, enabling better adjustment of their behaviors. However, it is evident that individuals who prefer to edit their photos have high levels of anxiety and perceive avoidance as a solution.

Individuals' desires to make changes to their photos have been found to be associated with their social withdrawal due to fears of rejection and disapproval. However, it is observed in the model that social appearance anxiety serves as the mediating variable that facilitates this relationship. Therefore, dissatisfaction with one's appearance and the resulting anxiety appear to lead individuals to socially distance themselves. Previous studies have shown that engaging with photos and selfies on social media is associated with higher levels of body dissatisfaction and facial dissatisfaction (Meier and Gray, 2014; Yang et al., 2020). A study by Mills, Musto, Williams, and Tiggemann (2018) found that women who posted unretouched selfies on their social media accounts felt more anxious and less confident compared to the control group. The strong relationship between appearance-related anxiety and photo editing, as demonstrated by these studies, may serve as an explanatory factor for the behaviors of individuals who prefer social withdrawal due to dissatisfaction with their appearance.

A positive relationship has been found between photo editing and the behavior of checking social media throughout the day. It is understood that individuals who frequently check their social media tend to edit their

photos more. There is also a positive relationship between sharing photos on social media and photo editing behavior. Therefore, individuals who value photo sharing also tend to value photo editing. These relationships appear consistent with various studies that indicate the widespread nature of photo editing behavior among social media users (McLean et al., 2015; Mills et al., 2018; Lee and Lee, 2019; Lonergan et al., 2019).

A positive relationship has been found between the liking of photos shared on social media and photo editing. As known, individuals tend to share their physically most appealing photos on social media, seeking approval from others (Pounders et al., 2016). This behavioral tendency, explained as self-presentation on social media, is a self-management strategy where individuals select and edit their best photos (Seidman, 2013; Boursier and Manna, 2018). Consequently, it can be inferred that individuals continue this behavior when they see that their photos are liked.

The study has some limitations. Specifically, data were collected from female university students representing the age group of 18-25. Since this age range is known for having a high self-focus, the sample can be seen already validating the hypotheses of the study. Therefore, testing the research hypotheses in different age groups is deemed necessary for comparison. Additionally, testing the study with male participants as well could provide insights into gender differences regarding appearance-related concerns. Self-report data were collected in the study. Given that photo manipulation is suitable for experimental studies among the study variables, future research might benefit from using experimental methods.

There are studies indicating that engaging in similar behaviors, such as posting selfies on social media, editing selfies, and emotionally investing in selfies on social media, is associated with higher levels of body dissatisfaction, self-objectification, dieting restrictions, eating disorder symptoms, depression, and appearance anxiety (McLean et al., 2015; Cohen et al., 2018; Choukas-Bradley et al., 2019; Lonergan et al., 2019; Salomon and Brown, 2019). Therefore, investing in photo editing on social media may have negative consequences.

Conclusion

According to the results of the study, the psychometric properties of the photo editing scale suggest that it can be a valid measurement tool in Turkey. Thus, we expect the Turkish-adapted photo editing scale used in this study to contribute to the relevant field. The other aim of the study was to test the model where the relationship variables with photo editing behavior exist. In this context, it is observed that photo editing behavior leads to social withdrawal through social appearance anxiety. However, no moderating role of self-reflection behavior was found between photo editing behavior and social appearance anxiety. It is recommended that future studies should test the model in a study where self-reflection phenomenon is measured with a different measurement tool. Furthermore, this study included only female participants. Conducting this study with male participants in future research would be useful to support the results in terms of body perception. Finally, it is expected that the relationships investigated in the study will provide explanatory contributions, especially to the relationship between health and social media.

References

Alanka Ö, Cezik A (2016) Dijital kibir: Sosyal medyadaki narsistik ritüellere ilişkin bir inceleme. Trt Akademi, 1:548-569.

Beos N, Kemps E, Prichard I (2021) Photo manipulation as a predictor of facial dissatisfaction and cosmetic procedure attitudes. Body Image, 39:194-201.

Biggs BK, Vernberg EM, Wu YP (2012) Social anxiety and adolescents' friendships: The role of social withdrawal. J Early Adolesc, 32:802-823.

Bollen KA (1990) Overall fit in covariance structure models: Two types of sample size effects. Psychol Bull, 107:256-259.

Boursier V, Manna V (2018) Selfie expectancies among adolescents: Construction and validation of an instrument to assess expectancies toward selfies among boys and girls. Front Psychol, 9:839.

Choukas-Bradley S, Nesi J, Widman L, Higgins MK (2019) Camera-ready: Young women's appearance-related social media consciousness. Psychol Pop Media Cult, 8:473-481.

Cohen R, Newton-John T, Slater A (2018) 'Selfie'-objectification: The role of selfies in self-objectification and disordered eating in young women. Comput Human Behav, 79:68-74.

Çalış M (2020) Sosyal medya kullanımı ile sosyal onay ihtiyacı ve kaygı düzeyleri arasındaki ilişki (Yüksek lisans tezi). İstanbul, İstanbul Gelişim Üniversitesi.

De Vries DA, Peter J, De Graaf H, Nikken P (2016) Adolescents' social network site use, peer appearance-related feedback, and body dissatisfaction: Testing a mediation model. J Youth Adolesc, 45:211-224.

Doğan T (2010) Sosyal Görünüş Kaygısı Ölçeği'nin (SGKÖ) Türkçe uyarlaması: geçerlik ve güvenirlik çalışması. Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 39:151-159.

Ege GB (2017) Kurgu çağında gerçekliğin manipulasyonu, popüler kültür ve "Photoshop". Sosyoloji Dergisi, 36:117-129.

Groesz LM, Levine MP, Murnen SK (2002) The effect of experimental presentation of thin media images on body satisfaction: A meta-analytic review. Int J Eat Disord, 31:1–16.

Göksan B (2007) Ergenlerde beden imajı ve beden dismorfik bozukluğu (Uzmanlık tezi). İstanbul, Şişli Etfal Eğitim ve Araştırma Hastanesi.

Grogan S (2016) Body Image: Understanding Body Dissatisfaction in Men, Women and Children. New York, Routledge.

Gümüş AE (2006) Sosyal kaygının benlik saygısına ve işlevsel olmayan tutumlara göre yordanması. Türk Psikolojik Danışma ve Rehberlik Dergisi, 3:63-75.

Harrison K, Hefner V (2014) Virtually perfect: Image retouching and adolescent body image. Media Psychol, 17:134-153.

Hart TA, Flora DB, Palyo SA, Fresco DM, Holle C, Heimberg RC (2008) Development and examination of the social appearance anxiety scale. Assessment, 15:48-59.

Holland G, Tiggemann M (2016) A systematic review of the impact of the use of social networking sites on body image and disordered eating outcomes. Body Image, 17:100–110.

Hooper D, Coughlan J, Mullen M (2008) Structural equation modelling: Guidelines for determining model fit. Electronic Journal of Business Research Methods, 6:53-60.

Hu LT, Bentler PM (1999) Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Struct Equ Modeling, 6:1-55.

Jackson DL (2003) Revisiting sample size and number of parameter estimates: Some support for the N:q hypothesis. Struct Equ Modeling, 10:128–141.

Karaşar B, Öğülmüş S (2016) Üniversite öğrencilerinde sosyal onay ihtiyacının çeşitli değişkenler açısından incelenmesi. Uludağ Üniversitesi Eğitim Fakültesi Dergisi, 29:469-495.

Karaşar B, Öğülmüş S (2016) Sosyal onay ihtiyacı ölçeği: Geçerlik ve güvenirlik analizi. Ege Eğitim Dergisi, 17:84-104.

Kline RB (2011) Principles and Practice of Structural Equation Modeling. New York, Guilford Press

Koç M (2015) Demografik özellikler ile kendini izleme arasındaki ilişki: Yetişkinler üzerine ampirik bir araştırma. Balıkesir Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 18:133-157.

Kurtyiğit D (2021) Üniversite öğrencilerinin instagram kullanımı ile beden algısı ve sosyal onay ihtiyacı arasındaki ilişkinin incelenmesi (Yüksek lisans tezi). İstanbul, İstanbul Kültür Üniversitesi.

Lee M, Lee HH (2019) Can virtual makeovers using photo editing applications moderate negative media influences on SNS users' body satisfaction?. Can J Behav Sci, 51:231-238.

Lennox RD, Wolfe RN (1984) Revision of the self-monitoring scale. J Pers Soc Psychol, 46:1349–1364.

Lonergan AR, Bussey K, Mond J, Brown O, Griffiths S, Murray SB et al. (2019) Me, my selfie, and I: The relationship between editing and posting selfies and body dissatisfaction in men and women. Body Image, 28:39-43.

McLean SA, Paxton SJ, Wertheim EH, Masters J (2015) Photoshopping the selfie: Self photo editing and photo investment are associated with body dissatisfaction in adolescent girls. Int J Eat Disord, 48:1132-1140.

Meier EP, Gray J (2014) Facebook photo activity associated with body image disturbance in adolescent girls. Cyberpsychol Behav Soc Netw, 17:199–206.

Mills JS, Musto S, Williams L, Tiggemann M (2018) "Selfie" harm: Effects on mood and body image in young women. Body Image, 27:86–92.

Mowrer OH (1951) Two-factor learning theory: summary and comment. Psychol Rev, 58:350–354.

Mustafa S, Akram M (2022) Self-consciousness, self-objectification, and social anxiety as predictors of photo editing behavior among emerging adults. Hum Behav Emerg Technol, 2022:1-9.

Özden D, Karagözoğlu Ş, Yıldız FT (2013) Entegre program hemşirelik öğrencilerinin klinik stres düzeyi ve etkileyen faktörler. Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi, 16:89-95.

Paulhus DL, John OP (1998) Egoistic and moralistic biases in self-perception: The interplay of self-deceptive styles with basic traits and motives. J Pers, 66:1025-1060.

Paxton SJ (2016) Why do some people feel bad about their appearance?: Understanding risk and protective factors for poor body image. Ann R Australas Coll Dent Surg, 23:75-77.

Pham HC, Nguyen L, Vu TA, Tran P (2022) Body ımage esteem and photo manipulation among social media users. Acta Informatica Pragensia, 11:62-79.

Pounders K, Kowalczyk CM, Stowers K (2016) Insight into the motivation of selfie postings: Impression management and self-esteem. Eur J Mark, 50:1879-1892.

Salomon I, Brown CS (2019) The selfie generation: Examining the relationship between social media use and early adolescent body image. J Early Adolesc, 39:539-560.

Seidman G (2013) Self-presentation and belonging on Facebook: How personality influences social media use and motivations. Pers Individ Dif, 54:402-407.

Snyder M (1974) Self-monitoring and blood pressure. J Pers Soc Psychol, 44:365-375.

Snyder M (1994) İzlenim ayarlamacılığı/ self- monitoring. In Hitler İsteseydi: Sosyal Psikoloji Yazıları (Çev. Ed. A. Dönmez): 152-165. Ankara, Gündoğan Yayınları.

Solmaz B, Tekin G, Herzem Z, Demir M (2013) İnternet ve sosyal medya kullanımı üzerine bir uygulama. Selçuk İletişim, 7:23-32.

Türetgen İÖ, Cesur S (2006) Gözden geçirilmiş kendini ayarlama ölçeği'nin güvenirlik ve geçerlik çalişmasi. Türk Psikoloji Yazıları, 9:1-17.

Wang Y, Xie X, Fardouly J, Vartanian LR, Lei L (2021) The longitudinal and reciprocal relationships between selfie-related behaviors and self-objectification and appearance concerns among adolescents. New Media Soc, 23:56-77.

Yang J, Fardouly J, Wang Y, Shi W (2020) Selfie-viewing and facial dissatisfaction among emerging adults: A moderated mediation model of appearance comparisons and self-objectification. Int J Environ Res Public Health, 17:672.