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Histrionic Personality, Narcissistic Personality, and Problematic Social Media Use: Testing of a New Hypothetical Model

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Abstract

In the present study, a hypothetical model examining the relationships between histrionic personality belief, need for social approval, desire for being liked, social media disorder, and narcissistic personality belief was proposed and tested. The effect of histrionic personality belief on the need for social approval and desire for being liked was tested first. Then the effect of the need for social approval and desire for being liked on social media addiction were tested. Finally, the effect of social media addiction on narcissistic personality belief was tested. The present study comprised 305 adolescents (165 girls and 140 boys) and they were administered the Personality Belief Questionnaire-Short Form, Need for Social Approval Scale, Desire for Being Liked Scale, and Social Media Disorder Scale. Before the proposed hypothetical model was tested, each latent variable was tested with measurement models to determine if it could be used in structural models. Findings demonstrated that histrionic personality belief positively affected the need for social approval and desire for being liked. The need for social approval and desire for being liked positively affected social media addiction. Finally, social media addiction positively affected narcissistic personality belief.

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In recent years, the use of social media has become a worldwide phenomenon. Social media use is arguably one of the most time-consuming leisure activities in many countries (Kuss and Griffiths 2011). Via social media, individuals can (among other things) connect with their friends and followers, express emotions, signify their location, and share photos and videos (Savci and Aysan 2018). This process provides individuals with an instant and live expression of themselves (Grau et al. 2019). Personality traits may affect excessive and pathological social media using (Andreassen et al. 2017; Hawi and Samaha 2019). In addition, it has been found that social media addiction appears to predict narcissistic personality trait and self-promotion behaviors (Biolcati and Passini 2018; Ekşi 2012; Malik and Khan 2015; Şafak and Kahraman 2019; Sung et al. 2016; Weiser 2015; Fox and Rooney 2015).

In a minority of cases, social media activities can cause negative social and psychological effects (Moor and Anderson 2019) with some claiming that extreme problematic social media use can be addictive (Griffiths et al. 2014; Pantic 2014; Savci and Griffiths 2019). Social media addiction can lead to negative outcomes socially, occupationally, and/or educationally (Turel et al. 2011), and is related with various forms of psychopathology (Hormes et al. 2014; Meena et al. 2015; Woods and Scott 2016), academic problems (Kirschner and Karpinski 2010), and loneliness (Savci and Aysan 2016, 2017; Yu et al. 2016). These consequences have led researchers to theorize and empirically examine the nature of social media addiction and related variables. The present study examines whether social media addiction is a bridge in a relationship between histrionic personality and narcissistic personality.

Hysteria and its consequences have long been studied. The concept of hysteria dates to ancient Egypt (Knoff 1971). At the present time, histrionic personality disorder, viewed as a derivative of hysteria (Novais et al. 2015), is accepted as a psychiatric disorder comprising seductiveness, emotional shallowness, and dramatics (American Psychiatric Association [APA], 2013). They also they exhibit histrionic patterns such as sexually seductive or provocative behavior, displaying social skills to manipulate people, self-dramatization, and extreme emotionality (Lewis and Mastico 2017; Sorokowski et al. 2016). Histrionic personality beliefs have been defined as constructs that lead to the formation of histrionic behavioral patterns and points to the underlying cognitive structures (Beck et al. 2004; Bhar et al. 2011). Individuals with histrionic personality often believe that other people will not like them if they are not the center of attention and that, in order to be happy, they have to attract other people's attention (Beck and Beck 1991; Lewis and Mastico 2017).

The most recent (fifth) edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; APA 2013) states that individuals with histrionic personality disorder are driven to search for intense attention, are seductive, use extremely dramatic expressions of emotion, are emotionally shallow, and frequently display impulsive expressions of the emotions. Individuals with histrionic tendencies want lots of social media friends (Berryman 2014; Rosen et al. 2013b).

Individuals who spend a lot of time on social media to make impressions of themselves in the minds of others have been shown to display indications of histrionic personality (Sorokowski et al. 2016; Renner et al. 2008). Individuals who believe emotional support is digitally attainable are predictive of histrionic indications (Rosen et al. 2013a). Furthermore, histrionic personality beliefs can affect individuals' social relationships. The present study examines whether those with a histrionic personality belief need more social approval and have a desire for being liked.

Developing healthy relationships depends upon social approval and acceptance (Venaglia and Lemay 2017). Negative thoughts concerning social approval tends to prompt behaviors

such as decreased self-disclosure (Chaudoir and Fisher 2010; Omarzu 2000), suppression of emotions (Kashdan and Steger 2006), inauthentic behavior (Gillath et al. 2010), and planned self-presentation (Leary and Kowalski 1990; Schlenker and Leary 1982).

Social approval is important for individuals in terms of social relationships and is important in terms of individuals' psychological needs and makes them feel socially accepted (Gabbert et al. 2003). Social approval basically comprises social reward and can have a major effect on daily social decision-making (Boksem et al. 2011; Leary 2007). Individuals who want to gain social approval and/or refrain from non-acceptance may behave less authentically in the course of their close or distant relationships (Venaglia and Lemay 2017). One of the features of histrionic personality is emotional shallowness (APA 2013), and individuals with histrionic tendencies may need more social approval than individuals who do not have histrionic tendencies. Therefore, based on the psychological literature, the first hypothesis (H_1) of the present study is that histrionic personality belief will have a positive and direct effect on the need for social approval.

All individuals have a desire to be liked. The requirement to belong and be liked appears to be a universal phenomenon (Baumeister and Leary 1995; Leary and Baumeister 2000), and consequently, individuals also want to be liked by others on social media. Histrionic personality is defined by seductive behaviors (American Psychiatric Association, 2013), so individuals with histrionic tendencies may desire being liked more than the other individuals who do not have histrionic tendencies. Therefore, the second hypothesis of the present study (H_2) is that histrionic personality belief will have a positive and direct effect on the desire for being liked.

Young (1999) claimed there were five different types of internet addiction, namely, computer addiction, information overload, net compulsions, cybersexual addiction, and cyber-relationship addiction. Despite the criticism by Griffiths (2000) that the typology described addictions on the internet rather than addictions to it, social media addiction is subsumed within the cyber-relationship addiction type. In the literature, researchers have proposed that addiction's etiology is affected by individual's biopsychosocial processes along with the situational and structural characteristics of the activity (Griffiths 2005). This is just as valid in the case of social media addiction (Andreassen et al. 2017), and the construct can be considered within general addiction approaches (Griffiths 2005; Andreassen et al. 2012). The desire of being liked is a universal phenomenon, as a result of the need for social approval, and individuals may want to meet such needs by using social media. Consequently, the third hypothesis of the present study (H_3) was that the need for social approval will have a positive and direct effect on the social media addiction, and the fourth hypothesis (H_4) was that the desire for being liked will have a positive and direct effect on the social media addiction.

In the psychological literature, researchers have proposed that personality factors may influence social media addiction (Andreassen et al. 2013; Wilson et al. 2010). The DSM-5 defines Narcissistic Personality Disorder (NPD) as a pervasive pattern of grandiosity (in fantasy or behavior) accompanied by a constant need for admiration and lack of empathy (APA 2013). Individuals with narcissistic personality are frequently defined as pretentious, manipulative, egotistical, bossy, and seductive by mental health experts. In addition, individuals with narcissistic personality are described as those who exploit other people without shame or guilt (Campbell and Miller 2011). Narcissistic personality beliefs have been defined as a concept that leads to the formation of narcissistic behavioral patterns and point to the underlying cognitive structures (Beck et al. 2004; Bhar et al. 2011). Individuals with narcissistic personality often have beliefs such as that they are very special and respectable people and that only intelligent and special people can understand them (Beck and Beck 1991; Campbell and Miller 2011).

Ellison et al. (2006) reported that individuals do not behave in accordance with their authentic self when using social networking sites compared with the behavior patterns of individuals in their daily lives. Narcissism is related with individuals' self-perceptions of agentic traits (e.g., strength, intelligence, and physical attractiveness). Most theoretical approaches concerning narcissism emphasize the importance of social relationships in the formation of narcissistic tendencies (Mehdizadeh 2010). Consequently, social media use may feed this narcissistic tendency. Social media using may produce superficial virtual relationships or friends that are characterized by shallow communication (Walther et al. 2008). Besides social media platforms extremely controlled areas that platforms provide to individuals perfecting their self-presentations (Buffardi and Campbell 2008). Some investigators have noted that intense increase use of social media can influence narcissism levels of modern-day individuals (Buffardi and Campbell 2008; Mehdizadeh 2010).

Social media might feed narcissistic characteristics because of its live and instant communication features (Valkenburg and Peter 2011). Firstly, social media can conveniently reach a multitude of familiar and unfamiliar individuals. Using social media provides individuals with opportunities to introduce themselves to numerous individuals and receive feedback and information from these individuals. Secondly, social media users display information that they select themselves. In the social media environment, shared pictures, videos, and words are faultless because individuals can share such information about themselves in a very controlled way. Thirdly, the synchronicity of social media assures individuals the chance of adjustment to self-presentation in the way that individuals want (Choi 2018).

Narcissistic tendencies have been found to be related with social media addiction (La Barbera et al. 2009). Also, individuals who have greater narcissistic tendencies use social media more because social media provides virtual perfection and aids the construction of a fantasy identity. Individuals can strengthen their ideal selves and fantasy powers in the virtual world (Buffardi and Campbell 2008; Manago et al. 2008; Mehdizadeh 2010; Zhao et al. 2008). Consequently, the fifth hypothesis of the present study (H_5) is that social media addiction will have a positive and direct effect on narcissistic personality beliefs. The hypothetical model is displayed in Fig. 1 and the hypotheses (H_1–H_5) are reiterated alongside the model:

H_1: Histrionic personality belief will have a positive and direct effect on the need for social approval.
H_2: Histrionic personality belief will have a positive and direct effect on the desire for being liked.
H_3: The need for social approval will have a positive and direct effect on social media addiction.
H_4: The desire for being liked will have a positive and direct effect on social media addiction.
H_5: Social media addiction will have a positive and direct effect on narcissistic personality beliefs.

Social media addiction is a phenomenon that concerns many individuals who use computers and smartphones excessively. Social media addiction has appeared to increase in parallel with technological developments, but there is limited information as to whether it shows different features from more "classic" addictions such as symptoms (e.g., craving, withdrawal, tolerance, problematic consequences) and how it is treated.
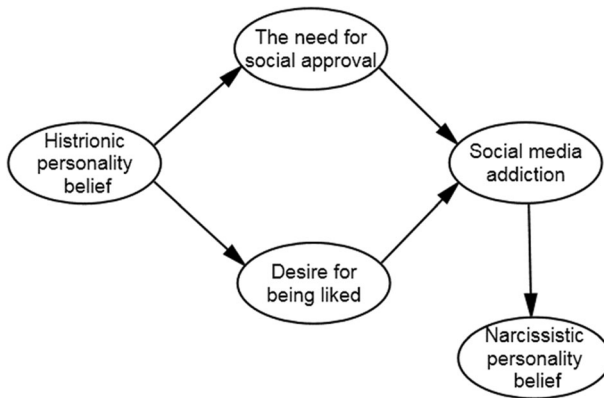
Fig. 1 Proposed hypothetical model

Therefore, the present study investigated the relationships between social media addiction, personality beliefs, and various variables (social approval, desire to be liked) while contributing to the literature of addiction more generally. In the present study, the transition from histrionic personality beliefs to narcissistic personality beliefs, social media addiction, and the need for social approval and desire for being liked (which are thought to be related with social media addiction) were investigated. The study was conducted on teenagers because adolescence is considered as a period in which an individual may experience multiple adaptation problems. Adolescence can be considered a period in which an individual can develop bad habits and maladaptive beliefs concerning personality due to the inability to cope with the changing life events.

Method

Participants

The present study comprised 357 adolescents who studied at different high schools in Elazig (Turkey). However, 41 adolescents were excluded because they did not use social media, and a further 11 were omitted from the data analysis due to missing data. Therefore, final analysis was carried out on data collected from 305 adolescents (165 girls and 140 boys). Adolescents were selected utilizing a convenience sampling method. The participant group was aged 14–18 years (SD = 0.89). The daily social media use duration varied between 0.15 and 11 h (mean = 2.94 h; SD = 2.29). The history of social media use varied between 1 and 8 years (mean = 2.39 years; SD = 1.48).

Materials

Personality Belief Questionnaire-Short Form In the present study, two subscales of the Personality Belief Questionnaire-Short Form (PBQ-STF) were used (Histrionic Personality Belief [seven items; e.g., "*I should be the center of attention*"] and Narcissistic Personality Belief [seven items; e.g., "*Other people should satisfy my needs*"]). The PBQ-STF was developed by Beck and Beck (1991) and adapted into Turkish by Taymur

et al. ([2011]). The PBQ-STF is responded to on a Likert-type scale (0 = *I do not believe at all*, 4 = *I believe entirely*). High scores on the scales indicate either a high level of histrionic personality or narcissistic personality (Taymur et al. [2011]). The one-dimensional structures of the Histrionic Personality Belief and Narcissistic Personality Belief subscales were tested in the present study. The CFA showed that the subscale of Histrionic Personality Belief had acceptable compliance values [(χ^2 = 50.08, df = 13, χ^2/df = 3.852, p < 0.001, RMSEA = 0.097, GFI = 0.96, AGFI = 0.91, CFI = 0.90, IFI = 0.90, and TLI (NNFI) = 0.83]. The CFA showed that the subscale of Narcissistic Personality Belief had acceptable compliance values [(χ^2 = 41.24, df = 14, χ^2/df = 2.946, p < 0.001, RMSEA = 0.080, GFI = 0.96, AGFI = 0.93, CFI = 0.93, IFI = 0.94, and TLI (NNFI) = 0.90]. In the present study, Cronbach's alpha internal consistency reliability coefficient of the Histrionic Personality Belief subscale was adequate (α = 0.72) and Cronbach's alpha internal consistency reliability coefficient of the Narcissistic Personality Belief subscale was the same (α = 0.72).

The Need for Social Approval Scale The Need for Social Approval Scale (NSAS) was developed by Karasar and Ogulmus ([2016]) and comprises a three-dimensional scale comprising 25 items (e.g., "*I try to correct my actions that are not approved by others*" and "*I'm afraid to make mistakes in social environments*") scored on a Likert-type scale (1 = *I never agree*, 5 = *I completely agree*). High scores on the NSAS indicate high level of need for social approval (Karasar and Ogulmus [2016]). The 25-item and three-dimensional structure of the NSAS was tested in the present study. The CFA results showed that the NSAS had acceptable compliance values [(χ^2 = 515.21, df = 272, χ^2/df = 1.89, p < 0.001, RMSEA = 0.054, GFI = 0.88, AGFI = 0.85, CFI = 0.90, IFI = 0.90, and TLI (NNFI) = 0.89]. In the present study, Cronbach's alpha internal consistency reliability coefficient of the NSAS was very good (α = 0.89).

Desire for Being Liked Scale The Desire for Being Liked Scale (DBLS) was developed by Kaşıkara and Doğan ([2017]) and is a one-dimensional scale comprising nine items and rated on a 4-point scale (1 = *I never agree*, 4 = *I completely agree*). High scores in the scale indicate a high level of desire for being liked (Kaşıkara and Doğan [2017]). The nine-item and unidimensional structure of the DBLS was tested in the present study. The CFA results showed that the DBLS had acceptable compliance values [(χ^2 = 72.94, df = 27, χ^2/df = 2.702, p < 0.001, RMSEA = 0.075, GFI = 0.95, AGFI = 0.91, CFI = 0.93, IFI = 0.93, and TLI (NNFI) = 0.91]. In the present study, Cronbach's alpha internal consistency reliability coefficient of the DBLS was good (α = 0.81).

Social Media Disorder Scale The Social Media Disorder Scale (SMDS) was developed by van den Eijnden et al. ([2016]) to assess social media addiction and was adapted into Turkish by Savci et al. ([2018]). The scale comprises nine items (e.g., "*… regularly felt dissatisfied because you wanted to spend more time on social media?*", and "*… often used social media to escape from negative feelings?*"), is unidimensional, and is scored using a Likert-type response (1 = *Never*, 5 = *All the time*). High scores indicate an increased risk of social media addiction (Savci et al. [2018]). The nine-item and unidimensional structure of the SMDS was tested in the present study. The CFA results showed that the SMDS had relatively acceptable compliance values [(χ^2 = 86.713, df = 26, χ^2/df = 3.34, p < 0.001, RMSEA = 0.088, GFI = 0.94, AGFI = 0.90, CFI = 0.91, IFI = 0.91, and TLI (NNFI) = 0.88]. In the present study, Cronbach's alpha internal consistency reliability coefficient of the SMDS was good (α = 0.82).

Procedure and Ethics

In the present study, approval was granted by the first author's university ethics committee. Each phase of the study was carried out in accordance with the Declaration of Helsinki. After obtaining ethics approval, four high school directorates in Elazig city center were contacted by telephone to see if they would be prepared to participate in the research and all four schools agreed to help. The schools chosen were those most easily accessible to the research team, and therefore, the participants comprised a convenience sample. The administration of the survey was carried out by the first author under the supervision of the teacher in the classroom. In all schools, the surveys were administered in those in grades 1 to 4 (i.e., a total of 15 classes). The aim of the study was explained to the participants, and written informed consent was provided by all students. The application was carried out under the supervision of a school administrator and teacher. The data were collected voluntarily in the classes where the students were educated. Being a social media user was the only inclusion criterion. Students who did not use social media and/or refused to participate in the study were excluded from data analysis. The data collection process lasted approximately 20–25 min.

Data analysis

The proposed hypothetical model was tested with structural equation modeling (SEM). Before starting the analysis, the prerequisites of the structural models (outliers, single and multivariate normality, multicollinearity problem, and sample size) were examined. As a result of the analyses, the dataset met all the prerequisites of SEM. Firstly, the dataset was examined in terms of outliers and there were no outliers that would negatively affect analyses. Skewness and kurtosis coefficients for latent variables varied between -1 and $+1$ and demonstrated that the data had a normal distribution. Multicollinearity problems occur when the binary correlation between the variables is greater than 0.90. This situation prevents reliable results. However, all binary correlation coefficients of the variables were smaller than 0.90 (Cokluk et al. 2012). Finally, the sample size was sufficient for this research. There were 57 observed variables in this study. The sample size is considered sufficient if it has more than five times the number of observed variables (Cokluk et al. 2012). Therefore, the sample size of 305 in the present study was sufficient.

Given that the dataset met the assumptions of the structural models, the data were analyzed with the maximum likelihood method. The covariance matrix was used in the maximum likelihood method. Before the proposed hypothetical model was tested, each latent variable (of all scales) was tested with measurement models to determine if it could be used in the structural models. Consequently, all the scales had acceptable index values. Then, the proposed hypothetical model was tested. The model fit was examined with chi-square (χ^2), degrees of freedom (df), the root mean square error of approximation (RMSEA), goodness of fit index (GFI), adjusted goodness of fit index (AGFI), confirmatory fit index (CFI), incremental fit index (IFI), and the Tucker-Lewis index (TLI). Commonly accepted fit indices and acceptable limits for model fit are shown in Table 1.

Results

Correlations

Correlation values between all the latent variables are shown in Table 2. When the correlation values of the latent variables given in Table 2 were analyzed, all binary correlations were

Table 1 Goodness of fit indices and acceptable limits

Indices	Acceptable limits
χ^2/df	≤ 5 acceptable fit, ≤ 3 perfect fit
RMSEA	≤ 0.10 weak fit, ≤ 0.08 good fit, ≤ 0.05 perfect fit
GFI	0.85–0.89 acceptable fit, ≥ 0.90 good fit
AGFI	0.85–0.89 acceptable fit, ≥ 0.90 good fit
CFI	≥ 0.90 acceptable fit, ≥ 0.95 good fit, ≥ 0.97 perfect fit
IFI	≥ 0.90 acceptable fit, ≥ 0.95 good fit, ≥ 0.97 perfect fit
TLI (NNFI)	≥ 0.90 acceptable fit, ≥ 0.95 good fit

(Brown 2006; Cokluk et al. 2012; Hu and Bentler 1999; Kelloway 2015; Kline 2011; Raykov and Marcoulides 2008; Meydan and Şeşen 2011; Schumacker and Lomax 2004; Schermelleh-Engel et al. 2003, Sümer 2000; Şimşek 2007; Tabachnick and Fidell 2013; Thompson 2004) (as cited in, Savci and Aysan 2019)

$\chi2$ chi-square, *df* degrees of freedom, *RMSEA* the root mean square error of approximation, *GFI* goodness of fit index, *AGFI* adjusted goodness of fit index, *CFI* confirmatory fit index, *IFI* incremental fit index, *TLI (NNFI)* Tucker-Lewis index (non-normed fit index)

meaningful and confirmed the hypotheses. The direction and significance of the relationship in the binary correlations were relatively aligned with hypotheses. In terms of latent variables, the highest correlation was between histrionic personality belief and desire for being liked.

Results of the Proposed Hypothetical Model

The *t* values of the hypothetical model ranged between 3.013 and 10.801 and all pathways were statistically significant at the $p < 0.01$ level (see Table 3). The fit indices of the hypothetical model showed that the model had a relatively acceptable fit [$\chi^2 = 2524.92$, df = 1531, χ^2/df = 1.65, RMSEA = 0.046, GFI = 0.77, AGFI = 0.75, CFI = 0.82; IFI = 0.82, TLI (NNFI) = 0.81]. Some fit index values were relatively low, while some fit index values indicated a perfect fit. The proposed hypothetical model had poor fit in terms of GFI, AGFI, CFI, IFI, and TLI (NNFI). The proposed hypothetical model had excellent fit values in terms of χ^2/df and RMSEA. The path diagram of the proposed hypothetical model is shown in Fig. 2.

The effect size was used when evaluating the effects of the proposed hypothetical model. Values less than 0.10 are considered as minor effects, values around 0.30 are of medium magnitude, and values 0.50 and above are considered as major (wide) effects (Kline 2005).

Table 2 Correlations between latent variables ($N = 305$)

	1	2	3	4	5	6	7	8
1. Histrionic personality belief	1							
2. Desire for being liked	0.61**	1						
3. Need for social approval-total	0.45**	0.57**	1					
4. Need for social approval-1	0.30**	0.39**	0.80**	1				
5. Need for social approval-2	0.48**	0.52**	0.84**	0.48**	1			
6. Need for social approval-3	0.34**	0.52**	0.85**	0.46**	0.65**	1		
7. Social media addiction	0.38**	0.47**	0.41**	0.27**	0.37**	0.40**	1	
8. Narcissistic personality belief	0.50**	0.49**	0.32**	0.27**	0.26**	0.27**	0.39**	1
Range	28	27	119	36	32	66	36	30
Mean	8.24	18.48	70.13	29.54	19.45	21.14	19.95	10.28
SD	5.62	6.24	20.33	8.78	7.36	8.41	7.67	6.06

**$p < 0.01$

Table 3 Hypothetical model's standardized regression values and explained variance

	λ	R^2	t
Histrionic personality belief ➔ desire for being liked	0.84	0.70	5.685***
Histrionic personality belief ➔ need for social approval	0.70	0.49	5.801***
Desire for being liked ➔ social media addiction	0.41	➔ 0.39	3.713***
Need for social approval ➔ social media addiction	0.28		3.013**
Social media addiction ➔ narcissistic personality belief	0.53	0.28	3.890***
Histrionic personality belief ➔ h1	0.35	0.12	4.926***
Histrionic personality belief ➔ h2	0.44	0.19	5.899***
Histrionic personality belief ➔ h3	0.57	0.33	7.005***
Histrionic personality belief ➔ h4	0.53	0.28	6.654***
Histrionic personality belief ➔ h5	0.48	0.23	6.239***
Histrionic personality belief ➔ h6	0.69	0.48	7.760***
Histrionic personality belief ➔ h7	0.50	0.25	
Desire for being liked ➔dl1	0.66	0.43	6.806***
Desire for being liked➔ dl2	0.68	0.47	6.907***
Desire for being liked➔ dl3	0.73	0.53	7.073***
Desire for being liked➔ dl4	0.62	0.38	6.631***
Desire for being liked➔ dl5	0.37	0.13	4.928***
Desire for being liked➔ dl6	0.56	0.31	6.334***
Desire for being liked➔ dl7	0.57	0.33	6.399***
Desire for being liked➔ dl8	0.58	0.34	6.458***
Desire for being liked➔ dl9	0.43	0.19	
Need for social approval ➔ NSA3	0.63	0.40	
Need for social approval ➔ NSA2	0.92	0.84	7.194***
Need for social approval ➔ NSA1	0.90	0.82	6.925***
NSA3➔sa1	0.64	0.41	
NSA3➔sa2	0.69	0.48	10.202***
NSA3➔sa3	0.69	0.48	10.162***
NSA3➔sa4	0.75	0.56	10.801***
NSA3➔sa5	0.66	0.44	9.827***
NSA3➔sa6	0.69	0.47	10.119***
NSA3➔sa7	0.63	0.39	9.393***
NSA3➔sa8	0.63	0.39	9.397***
NSA3➔sa9	0.59	0.34	8.879***
NSA2➔sa10	0.66	0.43	
NSA2➔sa11	0.64	0.41	9.584***
NSA2➔sa12	0.67	0.45	9.932***
NSA2➔sa13	0.60	0.36	9.057***
NSA2➔sa14	0.55	0.31	8.414***
NSA2➔sa15	0.56	0.31	8.501***
NSA2➔sa16	0.53	0.28	8.080***
NSA2➔sa17	0.54	0.29	8.176***
NSA1➔sa18	0.61	0.37	9.584***
NSA1➔sa19	0.60	0.36	8.491***
NSA1➔sa20	0.43	0.19	6.442***
NSA1➔sa21	0.40	0.16	6.021***
NSA1➔sa22	0.70	0.49	9.475***
NSA1➔sa23	0.35	0.12	5.336***
NSA1➔sa24	0.56	0.31	7.987***
NSA1➔sa25	0.64	0.41	8.901***
Social media addiction➔sm1	0.39	0.16	
Social media addiction➔sm2	0.59	0.35	5.870***
Social media addiction➔sm3	0.61	0.38	5.961***
Social media addiction➔sm4	0.60	0.36	5.929***
Social media addiction➔sm5	0.54	0.29	5.662***
Social media addiction➔sm6	0.58	0.34	5.850***
Social media addiction➔sm7	0.63	0.40	6.018***

Table 3 (continued)

	λ	R^2	t
Social media addiction➔sm8	0.61	0.37	5.959***
Social media addiction➔sm9	0.60	0.35	5.899***
Narcissistic personality belief ➔ n1	0.22	0.05	3.029**
Narcissistic personality belief ➔ n2	0.58	0.34	4.987***
Narcissistic personality belief ➔ n3	0.54	0.29	4.878***
Narcissistic personality belief ➔ n4	0.77	0.60	5.323***
Narcissistic personality belief ➔ n5	0.74	0.55	5.291***
Narcissistic personality belief ➔ n6	0.50	0.25	4.765***
Narcissistic personality belief ➔ n7	0.34	0.11	

*** $p < 0.001$

** $p < 0.01$

When the direct effects related to variables of the proposed hypothetical model were examined, the standardized path coefficient between histrionic personality belief and need for social approval was 0.70. This finding demonstrated that histrionic personality belief positively
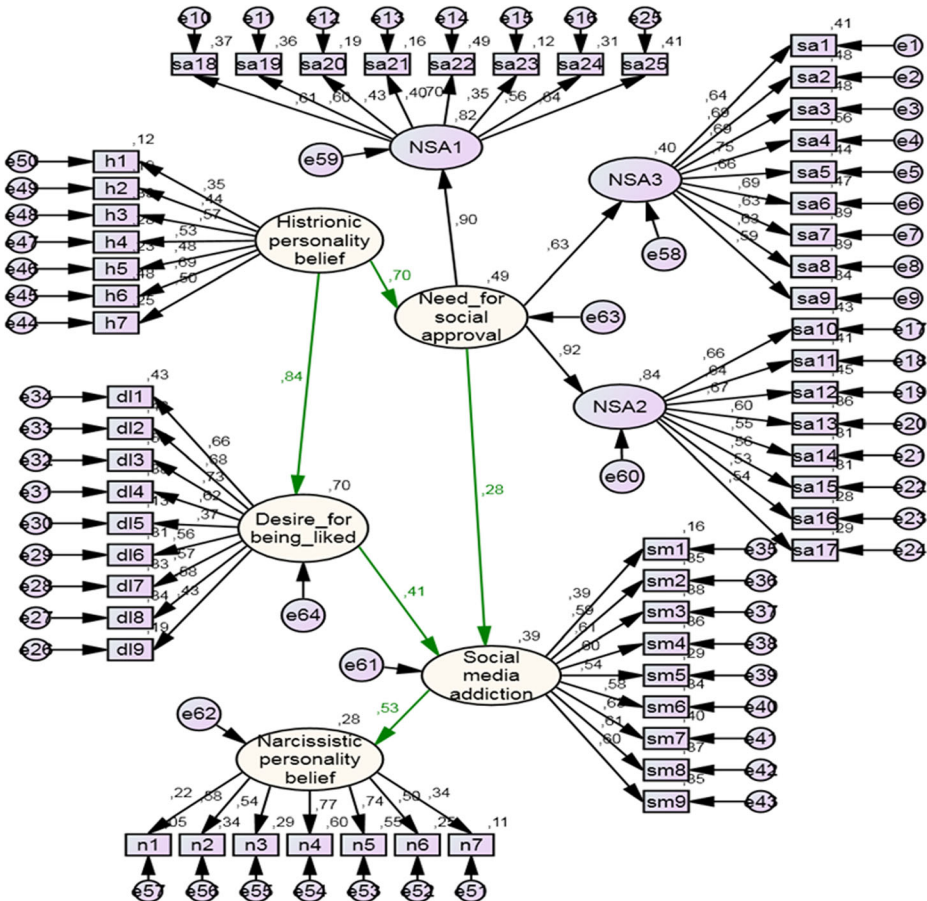

Fig. 2 Path diagram for the proposed hypothetical model

affected the need for social approval and that the effect between the variables was major (H₁). Histrionic personality belief explained 49% of the variance in the need for social approval. The standardized path coefficient between histrionic personality belief and desire for being liked was found to be 0.84. Histrionic personality belief explained 70% of the variance in the desire for being liked. The effect between the variables was major. Therefore, histrionic personality belief positively affected the desire for being liked (H₂). A standardized path coefficient of 0.28 between the need for social approval and social media addiction indicated a medium effect size. The need for social approval positively affected social media addiction (H₃). A standardized path coefficient of 0.41 between the desire for being liked and social media addiction indicated a medium effect size. The desire for being liked positively affected social media addiction (H₄). The need for social approval and the desire for being liked explained 39% of the variance in social media addiction. Finally, the standardized path coefficient between social media addiction and narcissistic personality belief was 0.53. This demonstrated that social media addiction positively affected narcissistic personality belief (H₅). The effect sizes between the variables were major. Social media addiction explained 28% of the variance in narcissistic personality belief. When the findings were evaluated as a whole, all hypotheses were confirmed. The hypothetical model's standardized regression values, explained variance, and t values are shown in Table 3.

Discussion

The hypothetical model was examined in three pathways. The effect of histrionic personality belief on the need for social approval and desire for being liked was examined in the first pathway. In this pathway, it was found that histrionic personality belief positively affected the need for social approval and desire for being liked. The effects of need for social approval and desire for being liked on social media addiction were examined in the second pathway of the model. In this pathway, it was found that the need for social approval and desire for being liked positively affected social media addiction. In the final pathway of the model, the effects of social media addiction on the narcissistic personality were examined. In this pathway, it was found that social media addiction positively affected narcissistic personality belief. When considered as a whole, the hypothetical model had acceptable fit index values.

The strongest effect in the hypothetical model was the association between histrionic personality belief and desire for being liked. Histrionic personality belief increased the desire for being liked. Histrionic personality belief involves attention-seeking thoughts. On social media sites, this situation may cause the individuals to take actions to get praise, to be controversial, and to seek compliments. Histrionic individuals may show shallow and improper attitudes and are frequently understood by other individuals as seductive and suggestible (Dobson 2017; Sorokowski et al. 2016). Maslow proposed a hierarchical five-tier model of human needs: (i) physiological needs, (ii) safety needs, (iii) love and belongingness needs, (iv) esteem needs, and (v) self-actualization needs. The third tier in Maslow's hierarchy of needs relates to love and belongingness needs. Acceptance of individuals, belonging to a group, and the desire to love represent behaviors in this tier. According to Maslow (1943, 1954), each individual has different needs, but the intensity of such needs varies from individual to individual. Consequently, histrionic individuals may desire to be more liked compared with individuals who are not histrionic. It is evident that the desire for being liked is strongly related with histrionic personality belief. Therefore, meeting the need for being liked may reduce histrionic personality belief.

The second strongest effect in the hypothetical model was the association between histrionic personality belief and need for social approval. Histrionic personality belief increases the need for social approval. Histrionic personality belief involves stereotypical behavioral patterns especially related to theatrical expression of emotion (Kellett 2007). Leite and Beretvas (2005) asserted that the need for social approval is defined as a concept that involves seeking the approval of others and avoiding disapproval of others. This need, which has an important place in interpersonal interactions, is seen as a situation that can lead to reconciling harmonious relationships and establishing social ties, and also to leading a life according to the expectations and desires of others rather than the individual itself (Karaşar and Öğülmüş 2016). Consequently, histrionic personality beliefs can be considered as being closely related to the need for social approval.

The third strongest effect in the hypothetical model was the association between social media addiction and narcissistic personality belief. Social media addiction increased narcissistic personality belief. In recent years, the use of social media platforms has become commonplace. Using social media provides instantaneous and live communication, the gaining of virtual friends, interaction with individuals in real-time, and finding friends with common interests (Boyd and Ellison 2007). Consequently, there is an increasing use of social media in many countries. However, excessive or deviant use of social media may cause some addictive behavior in a minority of individuals. Problematic social media use may be influenced by an individual's personality beliefs and can play an important role in the development of the social media addiction (Chung et al. 2019). Narcissism is related to individual traits including strength, intelligence, and physical attraction (Mehdizadeh 2010). Social media use may provide individuals unlimited and selected social connections that facilitate narcissistic personality beliefs and strengthen individuals' narcissistic tendency. Consequently, social media use may unconsciously feed individuals' narcissistic tendencies. Individuals with narcissistic personality belief may have a permanent need for social approval and desire for being liked. Therefore, they may be more at risk for developing social media addiction (Casale and Fioravanti 2018). Narcissism has been related to both substance use and problem gambling (Stenason and Vernon 2016; Trombly and Zeigler-Hill 2017), as well as social media addiction (Andreassen et al. 2017; Eşkisu et al. 2017; Liu and Ma 2018). Therefore, the finding in the present study supports previous research.

The fourth strongest effect in the hypothetical model was the association between the desire for being liked and social media addiction. The desire for being liked appears to increase the likelihood of social media addiction. Social media use facilitates both familiar and/or non-familiar virtual relationships in the online world (Abbasi 2019). The use of social media platforms helps maintain and fulfill individuals' needs for love and belongingness in a virtual sphere. For example, social media provides the medium for users to flirt with virtual friends and acquaintances (Clayton et al. 2013), and can be used to acquire and enhance relationships (Blackwell et al. 2017). The desire to be liked is an important need for many individuals. If individuals cannot meet their need for approval from their social environment, they may try to meet this need by making new friends in the real world or virtual world. Social media platforms are "controllable" arenas in which individuals can form virtual networks with individuals who they believe will like (quite literally in the use of the "like" button) their statements, photos, and videos (Buffardi and Campbell 2008). Again, this need for being liked may facilitate social media addiction.

One of the other smaller effects in the hypothetical model was the association between the need for social approval and social media addiction. The need for social approval may also

facilitate social media addiction. Social media use has scaled up considerably in the past few years (Casale et al. 2018). Social media platforms provide almost limitless chances for individuals to interact with friends, socializing virtually, and share their status, photos, and videos (Correa et al. 2013). Individuals may gain countless "friends" in social media and may stop being friends with those made in social media more easily than their friends in real life. For instance, individuals cannot select and change their work friends instantly in real life, but in social media, individuals can change friends instantly. Individuals can select friends based on their approval of social media posts. However, social media addiction has also been shown to be associated with tension in social relationships (Turel 2015). Social media use may cause tension in social relationships but at the same time it provides a medium for individuals to contact and select almost limitless virtual friends. In this context, the need for social approval may cause a minority of individuals to use social media pathologically.

The present study examined the relationships between social media addiction, personality traits, need for social approval, and desire for being liked, within Turkish high school students. In literature, social media addiction has been associated with diverse variables. For instance, social media addiction has been associated with low academic success (Turel and Qahri-Saremi 2016), decreased life quality (Turel and Bechara 2016), watching pornography, cybersex, online dating (Dijkstra et al. 2013), psychological, social, interpersonal problems (Abbasi 2018; Amichai-Hamburger and Vinitzky 2010; Clayton et al. 2013; Cravens et al. 2013; Kerkhof et al. 2011; Wilson et al. 2010), and negative feelings related with social media use (Krasnova et al. 2015; Turel 2015, 2016). The findings here contribute to social media addiction literature because the present study found that social media addiction was related with personality traits, need for social approval, and desire for being liked. These findings may help psychologists, counselors, and specialists to further understand the nature of social media addiction.

For some individuals, excessive use of social media may result in social media addiction compromising many areas of an individual's life and restricting their everyday life tasks (Ryan et al. 2014). Consequently, social media addiction is arguably a public health concern (Liu and Ma 2018). Social media addiction has also been associated with peer pressure (Orchard and Fullwood 2010). Psychologists, counselors, and other specialists working with addicted adolescents need to consider social approval and being liked in the therapeutic process.

The findings of the present research appear to show that social media addiction may have a contributory role in the formation of narcissistic personality beliefs. Additionally, histrionic personality beliefs appear to affect the need for social approval and desire for being liked. In line with these results, mental health professionals working with individuals addicted to social media can examine the impact of personality belief on social media addiction therapeutically and focus some of their interventions on personality beliefs. The present study also provides novel knowledge to theoreticians and clinicians working in the social media addiction field by emphasizing the potential effects of personality beliefs, desire for being liked, and the need for social approval in understanding the acquisition, development, and maintenance of social media addiction. Theoreticians may benefit from the findings of this study in further shaping their theories while clinicians may use the insights here in their applications for the prevention and treatment of problematic social media use. Parents and teachers should also be informed about the relationship between social media addiction and personality beliefs with the desire for social approval and desire for being liked. Given the influence of parents and teachers as role models for adolescents, knowledge concerning the associations reported here can be used in dissemination and shaping online communication processes to prevent social media addiction and maladaptive personality beliefs.

Strengths, Limitations, and Future Research

The hypothetical model outlined and tested in the present study offers new alternatives for explaining narcissistic personality beliefs. According to this model, histrionic personality beliefs affect the need for social approval and desire for being liked, and the need for social approval and desire for being liked appears to facilitate social media addiction, and finally social media addiction affects narcissistic personality beliefs. Despite these novel insights, the model was tested utilizing a nonclinical sample (of Turkish students) using convenience sampling being based on latent variables being evaluated using self-report data. Consequently, the results should be treated with some caution based on these limitations. The hypothetical model therefore needs support from longitudinal and qualitative research with clinical samples as well as more representative and larger samples from other populations.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval Ethics committee approval was obtained for this study. All procedures performed in this study involving human participants were in accordance with the ethical standards of University's Research Ethics Board and with the 1975 Helsinki Declaration.

Statement of Informed Consent Informed consent was obtained from all participants.

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