

## **Facebook Addiction and Its Relationship with Self-Esteem and Narcissism**

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The present research is focused on the study of relationship between self-esteem and personality trait narcissism with Facebook addiction. The Total number of research participants was 355, 124 participants were men and 231 participants were women. The age range of the people who participated in the study was 14 – 45 years (Mean Age =23.9). Participants who had a Facebook account and were at least matriculate were included. Results showed that participants with low self-esteem were more prone to Facebook addiction than those with high self-esteem and those with higher narcissism trait were more prone to Facebook addiction in comparison to those with low narcissism. The results further established that 15.1% of variance in Facebook addiction is explained by narcissism and 12.2 % of variance in Facebook addiction is because of self-esteem. Gender had no significant effect on the level of Facebook addiction.

**Keywords:** facebook addiction, self-esteem, narcissism

Communication and interaction among people have gone up beyond imagination. In the beginning of new century new medium of online communication emerged by using social networking sites (SNSs) having new principles and usage policies (Raacke & Bonds-Raacke, 2008). Social network sites facilitate individuals to freely communicate with one another and exchange information, express their feelings and thoughts etc. Social network sites provides forum to individuals to share their social connections, result in meetings held between the individuals which are frequently latent ties (Boyd& Ellison, 2007).

In past few years rapid increase has been witnessed in the use of internet among the youth. Millions of users have been drawn to social networking web sites. The total number of Facebook users has swelled up and stand at 2.38 billion(Hutchinson,2019).

Like other countries in Pakistan the use of internet is also increasing. According to a survey there are nine million Facebook users in Pakistan, out of which 6.5 million are male and 27 million are female users. About 70% of these users are 25 years old or younger (Haque, 2013). Growing increase

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Dr.Sabeen Rahim initiated the research; she did data analysis, and was responsible for the overall write-up and compilation of this article. Dr.SaimaPerwez collected the data and did the introduction of the research article. Dr. Salma Andleeb did the literature review and discussion of this research article.

in the use of the SNSs has attracted attention of the researchers throughout the world, for not just developing addiction to the medium itself, but for developing addiction to some particular activities being carried out online.

Addiction is commonly associated with inspiration from external factors (Brenner, 1997) but some researchers are of the opinion that addiction is affected by growth of one's intrinsic behavior in the absence of inspired behavior by external factors (Albrecht, Kirschner & Grüsser, 2007; Griffiths, 2000).

In 2004 students of the Harvard University formed Facebook, a social networking site which has now been the most widely used and the most successful site among users (Kuss & Griffiths, 2011). Due to the popularity and rapid growth of this network site, students from various universities outside the North America were allowed to access the network and in 2006 employees from large organization were given access to the site as well (Facebook, 2011). Facebook users are increasing every year. According to the survey conducted in 2015 there are approximately 1.09 million people who are using Facebook regularly (Facebook, 2015).

The obsessive use of the Facebook is more likely to affect the daily life of the users. The traits which lead to addiction are stated as follows: disregard for personal life, escapism and concealment of addictive behavior. Apart from these other addictive symptoms such as withdrawal, and conflict (both interpersonal and intrapsychic and repetitive i.e. addicts revert to excessive SNSs usage after a certain period of time) are also exhibited by the addicts. On the basis of these observation of the characteristics patterns of behavior of the addicts a non-medical term Facebook Addiction Disorder (FAD) has been introduced. The characteristic symptoms of this FAD include checking Facebook account first thing in the morning, when not online daydreaming of the updates received and ending the day with checking the account and wishing everyone goodnight as status update (Griffiths, 2005).

It was concluded by different researches that men and women used SNSs differently. According to the study conducted by Makashvili, Ujmajuridze and Amirejibi (2013), females mostly use Facebook for educational purpose and to remain in connect with the present relationships, whereas men use Facebook to make new contacts and acquaintances. In another study it was found that the females have higher tendency to become internet addict as compared to males (Irshad, Saleem & Kausar, 2015).

Few researches established relationship between self-esteem, narcissism and connectivity to socialnet working (Baldwin & Stroman, 2007) emphasizing the fact that through these web sites people promote themselves by self-descriptions (e.g. pride through photos) and by establishing shallow friendships with large numbers of people.

Potentially each of these self-descriptions, photos, friendships etc. is associated with narcissism (Vaidhyanathan, 2006). Thomas (2010) in his book *"Narcissism Behind the Mask"* described narcissistic traits as an extreme self-focus in interpersonal exchange, difficulty in maintaining relationship on satisfying ground, lack of psychological awareness and empathy problem in distinguishing themselves from others, hypersensitivity to insults, arrogant body language, flattered response to praise and admiration, boasting of achievements, etc. As a personality trait it refers to an hyperbolic self-concept related with all positive self-views about oneself such as intelligence, power and attractiveness an unreasonable sense of uniqueness, entitlement etc. (Gabriel, Critelli & Ee, 1994).

In perspective to social personality psychology individuals having narcissistic personalities try to improve their personalities and self-esteem (Brunell, Gentry, Campbell, Hoffman, Kuhnert & DeMarree, 2008). Self-esteem two different aspects. The first is competence and this dimension refers to efficacy based on self-projection. Such people consider themselves as capable and efficacious. The second dimension is related to performance/work-based self-esteem i.e. the extent to which an individual feels significant (Gecas & Schwalbe, 1983). Low self-esteem refers to low self-evaluation, being critical of self and having feelings of hopelessness. High self-esteem means appraisal of one's personality with undertones of positive traits in one's character which include self-worth and competence (Gecas, 1989).

Several pieces of research established link between personality traits i.e. narcissism and the use of SNSs for example Ryan and Xenos (2011) investigated relationship between narcissism, abstinence from social interaction and Facebook usage. Results showed that constant Facebook users were more extroverted and narcissistic and less diligent and socially lonely than those who were not constant users.

The relationship of Facebook addiction with low self-esteem can be explained in terms of the social comparison hypothesis also called the poorer gets richer. According to this hypothesis individuals having low self-esteem are the victims' of inferiority complex and suffer from sense of insecurity, anxiety and depression. They are more likely to compensate for their feeling of unworthiness by trying to behave in socially acceptable manner to get appreciation from others, such individuals having low self-esteem turn to Facebook to enhance and protect their self-esteem more than those having high self-esteem (Joinson, 2003). Kuss and Griffiths (2011) in their review of online social networking and addiction found that people having negative social identity were more inclined to the use of SNSs than those who had positive social identity. The cognitive behavior model of problematic internet use developed by Davis (2001) explains that individuals with low self-esteem had distorted cognitions about themselves. When getting online social approval they feel good and comfortable about themselves, resulting in addiction to the SNSs. Other studies revealed that people with low self-esteem perceived online feedback as a substitute of real life situation (Ellison, Steinfield & Lampe, 2007; Joinson, 2003) and to project positive image through their views (Swinth, Farnham & Davis, 2002).

Several approaches explain the underlying causes of narcissism and its relationship to Facebook addiction. One approach takes into account the major characteristics of the narcissists. According to this view, narcissists get satisfaction from self-praise, over emphasis of their positive qualities and are concerned whether others might be impressed by their grandeur or not (Grijalva & Zhang, 2016). They try to interact with people for creating favorable impression and draw positive response from others for their exaggerated qualities (Morf, & Rhodewalt, 2001). The SNSs is a favorable media for projection of their self-image and status (Valkenburg, Peter & Schouten, 2006). Another approach explains narcissists' inclination to Facebook addiction in terms of desire to get attention. According to this view narcissists have a strong desire for attention and love (Holtzman, Vazire & Mehl, 2010). Though the SNSs, such as Facebook, individuals with trait of narcissism get an opportunity to send self-related information to maximum number of people and receive feedback about themselves and about others in the form of likes and positive comments. Further they share the best aspects of themselves and hide the undesirable traits which in face to face communication is not possible. This self-presentation in the most favorable way through the medium of SNSs boost their narcissistic image, making Facebook a breeding ground for their narcissistic tendencies and thus paving the way for Facebook addiction ( O'Sullivan & Hussain, 2017).

Worldwide researchers are working on Facebook addiction to find reasons behind it. In this study data was collected from the Pakistani population to understand the reasons of Facebook addiction among the Pakistani youth. So this study would contribute in this regard.

### Objectives

To investigate the following points:

1. To explore the relationship of self-esteem and narcissism with Facebook addiction.

### Hypotheses

1. Individuals with low self-esteem will be more addicted to the use of Facebook in comparison to those having high self-esteem.
2. Individuals having high narcissism will be more prone to Facebook than individuals with low narcissism.
3. Self-esteem and narcissism will predict Facebook addiction among Facebook users.
4. Women will be more addicted to Facebook as compared to men.

## Method

### Sample

This study included (N = 355) number of participants out of which 124 were males and 231 were females who had posted their profiles on the site of Facebook. They were approached by researcher through Facebook site. The ages of the respondents ranged between 14 to 45 years (Mean age=23.9), age group of 199 participants was 14-24 years and 151 participants fell within age group of 25 to 45. 24 participants had 10 -12 years of education,33 participants had 14 years of education, 223 participants had 16 years of education and 69 participants were having above 16 years of education.

### Instruments

In this study the following questionnaires were used:

1. **Hypersensitive narcissism scale (HSNS):** It is a five point Likert scale ranging from very uncharacteristic to very characteristic. This scale is used for measurement of hidden narcissism. It was derived from Murray's (1938) 20 item scale for measuring narcissism. The scale was borrowed after identification of items from the original scale which could be co-related to an MMPI – based composite measurement of the hidden narcissism (Hendin, & Cheek, 1997). Cronbach's alpha for the HSNS was on the current data is .78. To determine the high and low narcissistic individuals the total sum of scores was divided into tertiles, i.e. the lowest, the middle and the highest. Same procedure was followed for determining the highest and the lowest Facebook addicts.
2. **Rosenberg self-esteem (RSES):** For assessment of self-esteem of the participants the Rosenberg 10 item scale was used. This is a four points rating scale which starts with agreeing at point No. 1 and extends to point 4 i.e. strongly disagreeing. The score ranges between 10 – 40 points. The higher score at this scale speaks of lower self-esteem (Rosenberg, 1965). 0-15 scores on this scale indicates low self-esteem, 15 -25 scores points towards normal self-esteem while 26 -30 shows high self-esteem. While the Cronbach's alpha based on the current data is .80.
3. **Bergen Facebook Addiction Scale (BFAS):** This scale is used to assess Facebook addiction. It is a Likert scale spread over five degrees very rarely at No. 5 and very often at

1.The scale indicates elements of addiction such as mood swings, tolerance, withdrawal, conflict and relapse (Andreassen, Torsheim, Brunborg&Pallesen, 2012). The Cronbach's alpha of this scale on the current data is .82.

### Procedure

For the purpose of the study questionnaires were uploaded on Google forms and the link was circulated among the people online, using social networking site Facebook and response was noted on Excel sheet in google sheets.

Request for participation in the survey was sent online to different people at different places regarding research on Facebook site. The purpose of the invitation for participation was explained to the people and access to the survey was also provided. After clicking the link, consent form of the survey and the questionnaire appeared on the net. After obtaining their consent, they were allowed to participate in the survey. Soliciting answers were limited to only one attempt. Their responses were directly sent to google sheets and afterward downloaded in format of excel sheets and then changed into SPSS sheet for further data analysis. The data was collected in two weeks. The response was encouraging and the questionnaires wassentto 365 persons out of which 355responded.

### Results

The results of the study indicate that people with low self-esteem and with high narcissistic trait were more inclined towards Facebook addiction. It was hypothesized on the preview of the literature that females would be more addicted to Facebook as compared to males but contrary to the hypothesis there was no difference between males and females scores on Facebook addiction scale. One of the objective of the this study was to establish whether narcissism and low self-esteem were the causal factors of Facebook addiction, which was established through regression analysis that narcissism and low self-esteem explained 27.3% of Facebook addiction.

**Table 1**

*Mean scores, standard deviation and t-values showing differences between Low self-esteem and high self-esteem on Facebook addiction scale*

Scale	Low Self-esteem (n=111)		High Self-esteem (n=83)		t(192)	p-value	95%CI		Cohen's d
	M	SD	M	SD			LL	UL	
BFAS	29.1	4.32	24.9	4.11	6.78	0.00	2.95	5.38	0.996

*Note:* BFAS= Bergen's Facebook Addiction Scale, CI= Confidence interval; LL= Lower limit; UL= Upper limit

Results in table 1show significant difference between the people with low self-esteem and people with high self-esteem on the Bergen's Facebook Addiction scale. These results suggest individuals with low self-esteem are more addicted to Facebook thus confirming the hypothesis.

**Table 2**

Mean scores, standard deviation and t-values showing differences between Low narcissism and high narcissism on Facebook addiction scale

Scale	Low Narcissism (n=143)		High Narcissism (n=66)		t(193)	p-value	95%CI		Cohen's d
	M	SD	M	SD			LL	UL	
	BFAS	13.9	4.6	19.7			5.51	-8.02	

Note: BFAS= Bergen's Facebook Addiction Scale, CI= Confidence interval; LL= Lower limit; UL= Upper limit

Results in table 2 suggest individuals with high narcissism are more addicted to Facebook than individuals with low narcissism thus confirming the hypothesis.

**Table 3**

Mean scores, standard deviation and t-values showing differences between males and females on Facebook addiction scale

Scale	Males (n=120)		Females (n=228)		t(346)	p-value	95%CI		Cohen's d
	M	SD	M	SD			LL	UL	
	BFAS	16.3	5.93	15.5			5.2	1.27	

Note: BFAS= Bergen's Facebook Addiction Scale, CI= Confidence interval; LL= Lower limit; UL= Upper limit

Results in table 3 show that in both males and females no significant difference found in the Facebook use hence contradicting our hypothesis.

**Table 4**

Hierarchical Regression Analysis for Variables Predicting Facebook addiction (N=322)

Model	$\beta$	R <sup>2</sup>	$\Delta R^2$	95%CI	
				LL	UL
1.Constant	4.11			1.04	7.183
NAR	.372**	0.151	0.151	0.275	0.469
2.Constant	14.95			9.28	20.61
NAR	.285**			0.183	0.387
SELF	-0.294**	0.273	0.056	-0.425	-0.163

Note:  $\beta$  = Standardized regression weight, R<sup>2</sup>=Explained variance,  $\Delta R^2$ =change in R<sup>2</sup>,

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$ ; CI = Confidence interval; LL = Lower limit; UL = Upper limit NAR= Narcissism, SELF= self-esteem

Table 4 displays stepwise regression analysis between face book addiction and variables i.e. self-esteem and narcissism. 15.1 % of variance in face book addiction accounted for narcissism, when 'narcissism' combines with self-esteem; it explains 27.3% of the variance and this sign also shows that when the self-esteem would be low the face book addiction would be high. It can be concluded that 27.3% of face book addiction is because of self-esteem and narcissism.

### Discussion

In Pakistan the use of Facebook is widespread. In the perspective of Pakistani environment few studies have been conducted to assess Facebook addiction therefore limited knowledge is available on the excessive use of Facebook. The purpose of this study is to elucidate all the related factors influencing inclination towards Facebook addiction.

On the basis of present study it is concluded that Face book addiction is influenced by personality traits such as self-esteem and narcissism. Data (table 1 & 2) shows that mean scores on Bergen's Facebook Addiction Scale of the participants having low self-esteem and those having high narcissism are significantly higher as compared to those with high self-esteem and low narcissism on the Bergen Facebook Addiction Scale. These results suggest that participants having low self-esteem and high narcissism are more prone to Facebook addiction.

These results are agreement with earlier researches which demonstrated a positive association between low self-esteem and Facebook addiction (Ellison, Steinfield & Lampe, 2007; Swinith, Farnham & Davis, 2002) and between personality trait narcissism and use of social network site (Baldwin & Stroman, 2007). Research conducted by Buffardi and Campbell (2008) found narcissism as a predictor of social network usage.

Results of another study showed that participants with higher narcissism reported high frequency of online content production than those having low level of narcissism (Poon & Leung, 2011).

Braïlovskaja and Margraf (2017) in a longitudinal study examined Facebook addiction (FBA) in a German students. Results demonstrated no significant increase in the Facebook addiction in the students. However significant positive relationship was found between their trait narcissism and Facebook addiction.

A study conducted in Pakistan established a positive correlation between Facebook addiction and narcissism (Malik & Khan, 2015). Ellison, Steinfield & Lampe (2007) in a study investigated the benefits of Facebook friends in terms of social capital in college students. Results showed that students having low self-esteem were more likely to seek social opportunities created on Facebook as compared to students with high self-esteem. Moving along the same line Mehdizadeh (2010) in her study found that participants who obtained low scores on the Rosenberg Self Esteem Scale spend greater amount of time on Facebook per session and greater number of Facebook logins per day. These results suggest that by creating social opportunities and building social bonds among users, Facebook may have a positive effect on the level of self-esteem.

Hypothesis no 1 and 2 were further verified by the result of our hypothesis no 3 i.e. that self-esteem and narcissism would predict the Facebook addiction, which was verified. . 15.1 % of variance

in face book addiction is accounted for narcissism, self-esteem explained 12.2% of variance in combination of both of these explained 27.3% of the variance (table 4).

Other researches also confirm the study findings. Tang, Chen, Yang, Chung and Lee, (2016) conducted study in Taiwan on university students, they established that few personality traits were negatively associated with Facebook addiction i.e. agreeableness and conscientiousness. It was also found that neuroticism and having online personal relationship were causal factors of Facebook addiction.

In another research study also conducted in Taiwan it has been concluded that excessive Facebook usage can be predicted by feelings of self-inferiority, while Facebook addiction can be predicted by frequent face book usage and having depressive personality (Hong, Huang, Lin & Chiu, 2014).

Females are more addicted to Facebook than males (Biernatowska, Balcerowska & Bereznowski, 2017). This aspect of the problem was also looked into whether females had more tendency for Facebook addiction. It was postulated on the basis of previous studies (Makashvili, Ujmajuridze, & Amirejibi, 2013) that females would be more prone to Facebook addiction as compared to men but the results of the present study revealed that there was no significant difference between males and females in the excessive use of Facebook which contradicted the hypothesis.

### **Conclusion**

The present study was conducted to identify personality factors i.e. self-esteem and narcissism that influence individuals to use Facebook excessively.

The study confirmed that individuals with low self-esteem were susceptible to internet addiction and individuals suffering from narcissism were also inclined to use internet excessively. Self-esteem and narcissism are the predictors of Facebook addiction. It was also established that gender had no role in excessive use of internet according to this study findings.

### **Implications**

The outcomes of the present research have significant implications for the clinicians to understand the mechanism behind Facebook addiction, recognizing those with low self-esteem and narcissistic personality and target them for intervention in order to prevent destructive and addictive online participation especially among young adolescents, women and less educated individuals.

### **Limitations**

The size of the sample was low, the results therefore cannot be confidently generalized.

### **Suggestions**

Future researchers need to focus on the impact of other variables on the internet addiction i.e. psychological well-being, life satisfaction, and educational performance of the students and on the work / performance of the working individuals.



### References

- Albrecht, U., Kirschner, N. E., & Grüsser, S. M. (2007). Diagnostic instruments for behavioural addiction: an overview. *GMS Psycho-Social Medicine*, 4.
- Andreassen, C. S., Torsheim, T., Brunborg, G. S., & Pallesen, S. (2012). Development of a Facebook addiction scale. *Psychological reports*, 110(2), 501-517.
- Baldwin, T., & Stroman, A. (2007). How self-esteem classes are “breeding a selfish generation”. *The Times London*.
- Biernatowska, A., Balcerowska, J. M., & Bereznowski, P. (2017). Gender differences in using Facebook—preliminary analysis. In J. Nyćkowiak & J. Leśny (Eds.), *Badania i Rozwój Młodych Naukowców w Polsce – Społeczeństwo: psychologia i socjologia* (pp. 13–18). Poznań, Poland: Młodzi Naukowcy.
- Boyd, D. M., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of computer-mediated Communication*, 13(1), 210-230
- Brailovskaia, J., & Margraf, J. (2017). Facebook Addiction Disorder (FAD) among German students—A longitudinal approach. *PLoS One*, 12(12), e0189719.
- Brenner, V. (1997). Psychology of computer use: XLVII. Parameters of Internet use, abuse and addiction: the first 90 days of the Internet Usage Survey. *Psychological reports*, 80(3), 879-882.
- Brunell, A. B., Gentry, W. A., Campbell, W. K., Hoffman, B. J., Kuhnert, K. W., & DeMarree, K. G. (2008). Leader emergence: The case of the narcissistic leader. *Personality and Social Psychology Bulletin*, 34(12), 1663-1676.
- Buffardi, L. E., & Campbell, W. K. (2008). Narcissism and social networking web sites. *Personality and social psychology bulletin*, 34(10), 1303-1314.
- Davis, R. A. (2001). A cognitive-behavioral model of pathological Internet use. *Computers in human behavior*, 17(2), 187-195.
- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook “friends:” Social capital and college students’ use of online social network sites. *Journal of Computer-Mediated Communication*, 12(4), 1143-1168.
- Facebook (2015). Facebook Newsroom: Company Info. Retrieved from <http://newsroom.fb.com/company-info/>.
- Facebook (2011) Press room. Available at: <http://www.facebook.com/info.php?statistics>.
- Gabriel, M. T., Critelli, J. W., & Ee, J. S. (1994). Narcissistic illusions in self-evaluations of intelligence and attractiveness. *Journal of Personality*, 62(1), 143-155.
- Gecas, V., & Schwalbe, M. L. (1983). Beyond the looking-glass self: Social structure and efficacy-based self-esteem. *Social psychology quarterly*, 77-88.
- Gecas, V. (1989). The social psychology of self-efficacy. *Annual review of sociology*, 15(1), 291-316.
- Griffiths, M. (2005). A ‘components’ model of addiction within a biopsychosocial framework. *Journal of Substance Use*, 10(4), 191-197.
- Griffiths, M. (2000). Internet addiction-time to be taken seriously? *Addiction research*, 8(5), 413-418.
- Grijalva, E., & Zhang, L. (2016). Narcissism and self-insight: A review and meta-analysis of narcissists’ self-enhancement tendencies. *Personality and Social Psychology Bulletin*, 42(1), 3-24.
- Haq, J. (2013, 5 May). By the numbers: Facebook in Pakistan. *The Express Tribune*. Retrieved from <https://tribune.com.pk/story/543529/by-the-numbers-facebook-in-pakistan/>.
- Hendin, H. M., & Cheek, J. M. (1997). Assessing hypersensitive narcissism: A reexamination of Murray’s Narcissism Scale. *Journal of research in personality*, 31(4), 588-599.
- Holtzman, N. S., Vazire, S., & Mehl, M. R. (2010). Sounds like a narcissist: Behavioral manifestations of narcissism in everyday life. *Journal of Research in Personality*, 44(4), 478-484.
- Hong, F. Y., Huang, D. H., Lin, H. Y., & Chiu, S. L. (2014). Analysis of the psychological traits, Facebook usage, and Facebook addiction model of Taiwanese university students. *Telematics and Informatics*, 31(4), 597-606.

- Hutchinson, A. (2019, April 24 ). Facebook reaches 2.38 billion users, beats revenue estimates in latest update. Retrieved from <https://www.socialmediatoday.com/news/facebook-reaches-238-billion-users-beats-revenue-estimates-in-latest-upda/553403/>.
- Irshad, R., Saleem, M., & Kausar, A. (2015). Gender Differences in Facebook Addiction and Loneliness in Higher Education Students. 1st International Conference of Psychology – Advancing Woman Issues “Local and Global Directions” Islamabad, 10-12-2015. Peshawar: Fwu Social sciences journal.
- Joinson, A. N. (2003). Understanding the psychology of Internet behaviour: Virtual worlds, real lives. *Revista Iberoamericana de educación a distancia*, 6(2), 190.
- Kuss, D. J., & Griffiths, M. D. (2011). Online social networking and addiction—a review of the psychological literature. *International journal of environmental research and public health*, 8(9), 3528-3552.
- Malik, S., & Khan, M. (2015). Impact of facebook addiction on narcissistic behavior and self-esteem among students. *J Pak Med Assoc*, 65(3), 260-263.
- Makashvili, M., Ujmajuridze, B., & Amirejibi, T. (2013). Gender Difference in the Motives for the Use of Facebook. *Asian Journal for Humanities and Social Studies (AJHSS)*, 1(03), 130-135.
- Murray, H. A. (1938). Explorations in personality. New York: Oxford University Press.
- Mehdizadeh, S. (2010). Self-presentation 2.0: Narcissism and self-esteem on Facebook. *Cyberpsychology, behavior, and social networking*, 13(4), 357-364.
- Morf, C. C., & Rhodewalt, F. (2001). Unraveling the paradoxes of narcissism: A dynamic self-regulatory processing model. *Psychological inquiry*, 12(4), 177-196.
- O'Sullivan, A. & Hussain, Z. (2017) 'An Exploratory Study of Facebook Intensity and its Links to Narcissism, Stress, and Self-esteem', *Journal of Addictive Behaviors, Therapy & Rehabilitation*, 06 (01). doi: 10.4172/2324-9005.1000161
- Poon, D.C & Leung, L. (2011). Effects of narcissism on leisure, Boredom and gratification sought on net generated content. *International journal of Cyber Behaviour, Psychology & Learning*, 1, 1-14.
- Raacke, J., & Bonds-Raacke, J. (2008). MySpace and Facebook: Applying the uses and gratifications theory to exploring friend-networking sites. *Cyberpsychology & behavior*, 11(2), 169-174.
- Rosenberg, M. (1965). Rosenberg self-esteem scale (RSE). *Acceptance and commitment therapy. Measures package*, 61(52), 18.
- Ryan, T., & Xenos, S. (2011). Who uses Facebook? An investigation into the relationship between the Big Five, shyness, narcissism, loneliness, and Facebook usage. *Computers in human behavior*, 27(5), 1658-1664.
- Swinth, K., Farnham, S., & Davis, J. (2002). Sharing personal information in online community member profiles. *Microsoft Research Internal paper*.
- Tang, J. H., Chen, M. C., Yang, C. Y., Chung, T. Y., & Lee, Y. A. (2016). Personality traits, interpersonal relationships, online social support, and Facebook addiction. *Telematics and Informatics*, 33(1), 102-108.
- Thomas, D. (2010). *Narcissism: Behind the mask*. Book Guild.
- Vaidhyanathan, S. (2006, December 28). Me, “Person of the Year”? No thanks. MSNBC.com. Retrieved May 14, 2007, from <http://www.msnbc.msn.com/id/16371425/>
- Valkenburg, P. M., Peter, J., & Schouten, A. P. (2006). Friend networking sites and their relationship to adolescents' well-being and social self-esteem. *Cyber Psychology & Behavior*, 9(5), 584-590.