Ego-Identity and Social Networking addiction among Adolescent's: The Mediating Role of Self-Esteem

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Research studies have shown that self-identity has the strongest association with excessive use and addiction to social networking sites among adolescents (Ho, Lwin and Lee, 2017) and that severity of self-identity confusion was positively associated with the severity of internet addiction in college students (Hsieh, Hsiao, Yang, Leeand Yen, 2019). It is known that processes related to the formation and development of self-esteem determine the perimeters of the relationship between the adolescent and the surrounding world (Minev, Petrova, Mineva, Petkova, and Strebkova, 2018). Hence the present study aimed to evaluate and test the research question "Does ego-identity predict extent of social networking addiction (SNA)" and "Does self-esteem mediate the relationship between SNA and ego-identity in adolescent boys and girls in the age range of 13 to 16 years as these are the years during which adolescents explore their world and choose values and goals that guide their future action. Expost facto research design was used for the study. A sample of 300 school students (M=150; F=150) was asked to complete three scales – i) Ego-identity Scale developed by Tan, Kendis, Fine, and Porac (1977), ii) Self-esteem scale developed by Rosenberg, M. (1965) and iii) Social Networking Addiction scale developed by Shahnawaz, Ganguli, Zou (2013). Data was analysed using Pearson's Product Moment Correlation, Multiple linear regression analyses and Lambert's Mediation model. Results indicated a significant and negative correlation between ego-identity and SNA and a significant and positive correlation between self-esteem and SNA The influence of ego-identity on SNA was partially mediated by self–esteem.

Keywords: Ego–Identity, Social Networking Addiction, Self-Esteem, Adolescents

Ego-identity as described by Erickson (1968) is the sense of identity that provides individuals with the ability to experience their sense of who they are, and act on that sense, in a way that has continuity and sameness. Having a powerful sense of ego-identity is the key element in a person's development, and the adolescent period has been noted as a crucial time in shaping that development.

There are various reasons that affect the well-being of adolescents and some of them are the loss of parental relationship, disrupted interpersonal relationships, fading social and cultural values, domination of unhealthy environment, ego-identity depletion, low self-esteem, addiction and so on. Addiction to anything that affects the mental, physical, and psychological health of individuals makes them lose control over their behavior, actions, or usage. This research is an attempt to understand social media addiction and its influence on adolescents' ego-identity and self-esteem.

Aim:

The aim for the current investigation is to determine if ego-identity influenced social networking addiction and if self-esteem mediated the relationship between ego–identity and social networking addiction.

Research questions:

1. Does ego-identity have an influence on social networking addiction and self–esteem of adolescents?

2. Does self-esteem mediate the relationship between ego-identity and social networking addiction?

Research design:

Ex post facto research design was employed for the study.

Objectives of the study

1. To study the relationship between ego-identity, social networking addiction and self esteem

2. To study influence of ego-identity on self-esteem and social networking addiction

3. To study the mediating role of self-esteem, between ego-identity and social networking addiction.

Hypotheses of the study:

Based on the review of literature the following alternate hypotheses are formed.

1. H1 -There will be a significant inter-correlation between ego-identity, social networking addiction and self-esteem.

2. H2 - There will be a significant total effect of ego-identity on social networking addiction.

3. H3 - There will be a significant direct effect of ego-identity on self-esteem.

4. H4- There will be a significant direct effect among ego-identity, self-esteem, and social networking addiction.

5. H5 - There will be a significant indirect effect of ego-identity on social networking addiction through self-esteem.

Method

Sample:

The participants of this study included 300 students, M=150, F=150. Convenient sampling method was employed. Schools were approached for permissions. Students from schools who consented to participate in the study were included. Informed consent was acquired from the students.

Measures:

The following scales were employed to assess the variables of the study

1. Ego-identity Scale developed by Tan, Kendis, Fine, and Porac (1977)

2. Rosenberg Self-esteem Scale (1965)

3. Social Networking Addiction Scale developed by Shahnawaz, Ganguli, Zou. (2013)

Statistical Analysis:

SPSS was used to analyze the data. Descriptive statistics and correlations analyses were performed between main variables. Secondly, Lambert's mediation model was implemented by performing multiple regression and Preacher and Hayes (2004) SPSS Macro for Simple Mediation to estimate the indirect effect of the predictor variable and the outcome variable through the mediating variable. SOBEL test and bootstrapping for normal distribution was done to estimate the size of mediation effect.

Results and Discussion

From table 1 we can infer that all three variables of this study have statistically significant correlation with one another. Thus, Hypothesis 1 (H1) which states that there will be a significant inter-correlation between ego-identity, social networking addiction and self-esteem has been accepted. This would mean that individuals who show identity diffusion had higher probability of social networking addiction.

The results of the present study showed that ego-identity is negatively correlated with self-esteem (-.31'). Previous studies carried out by Basak & Ghosh (2008) have shown positive correlation between ego-identity status and self-esteem. This implies adolescents having high identity achievement status had high self-esteem whereas adolescents who were in crisis and not made commitment had low self-esteem. The present study shows that ego-identity was negatively correlated with self-esteem. This could imply that those with good ego-identity still could have low self-esteem and those who show ego diffusion could still have a good self-esteem.

The present study did not look at the specific identity statuses of the adolescent boys and girls who participated in the study. The mean scores on ego-identity and self-esteem were found to be in the average range. This could indicate that participants may be in the identity foreclosure state wherein they have accepted their parental wish and retained a positive self-evaluation

Table 1. Descriptive statistics and bivariate correlations of the main variables.

Variable	N	M	SD	1	2	3	4	5	6
SNA	300	87.67	11.53	1	.91**	.32*	.49**	.29**	-.34**
Impulsivity	300	47.59	9.79	.91**	1	.015	.28**	.30**	-.35**
Virtual Freedom	300	25.73	3.69	.32**	.015	1	-.017	.05	-.07
Negative Outcomes	300	14.49	2.88	.49**	.28**	-.007	1	.108	-.105
Self-Esteem	300	22.66	3.99	.29**	.29**	.05	.108	1	-.31**
Ego-identity	300	6.26	1.86	-.34**	-.35**	-.07	-.105	-.31**	1

**Correlation is significant at 0.01 level, $p<.001$

Table 2. Testing the pathways of the mediation model

Path	B	z	p – value	95% confidence intervals	
				Lower	Upper
a. Total effect model					
Ego-identity ⟶ SNAS	-2.12	0.34	<.001	-2.77	-1.44
b. Single-Mediator Model					
Direct effects					
Ego-identity ⟶ SNAS	-1.69	0.34	<.001	-2.37	-1.00
Ego-identity ⟶ Self-esteem	-0.68	0.34	<.001	-0.91	-0.44
Self-esteem ⟶ SNAS	0.61	0.16	<.001	0.29	0.93
Indirect effect					
Ego-identity ⟶ Self-esteem ⟶ SNAS	-0.41	-.28	.002	-0.70	-0.16

of themselves as in Indian culture which is a prized value, or they may in a moratorium state still exploring alternatives without making a commitment and hence being in a state of ego diffusion (not committing and not exploring) still could result is maintaining a moderate positive self-image about themselves. This could be plausible as they were still in school.

Additionally, while research in the past reported significant relationship between identity status and self-esteem (Taylor & Oskay, 1995), there have been studies which showed no significant association between the two constructs (Rotheram-Borus, 1989). Further studies are needed to clarify the relationships between different identity statuses and self-esteem in adolescents since the results from the previous research present inconsistent findings.

The results of the present study show that self-esteem has a significant and positive correlation with social networking addiction (.29'). Previous research has shown adolescents and young adults spend more time on social media daily (Köse, Özge & Doğan, Aze, 2019). A good dose of an adolescent's sense of personal efficiency and personal worth comes from what he believes others think about them. Having several Instagram & Twitter followers and Facebook friends could feed a false sense of self recognition and societal sanction and inhibit negative self-evaluation (Andreassen, Pallesen, Griffiths, 2017). The results of the study carried out by Valkenburg, Peter and Schouten (2006) revealed that the use of the friend networking site stimulated the number of relationships formed on the site, the frequency with which adolescents received feedback on their profiles, and the tone of this feedback. Positive feedback on the profiles enhanced adolescents' social self-esteem and well-being, whereas negative feedback decreased their self-esteem and well-

being. This could probably explain the significant and positive correlation between self -esteem and social networking addiction.

In addition, there is a large literature, theoretical and empirical, supporting a relationship between these two variables, however, the conclusions are mixed, some of the research findings show that the use of social networking sites (SNS) and self-esteem are negatively associated (Valkenburg, Koutamanis, & Vossen, 2017), while some find that they are positively associated (Bruke, 2013). Further research is needed to give more clarity on the relationship between SNS and self-esteem.

### Testing the Mediation Model

The significant correlations established among ego-identity, self-esteem, and SNA met the statistical requirements for mediation analysis. Below is the tabular and diagrammatic representation of the results of the simple mediation.

The total effect between ego-identity (Predictor variable) and social networking addiction (Dependent variable) denoted as path c was determined using regression. The results of regression analysis showed that ego-identity was negatively related to SNA (b = -2.12, p < 0.001). Therefore, H2 which states that there will be a significant total effect of ego-identity on social networking addiction has been accepted. The results show that ego-identity diffusion could increase the probability for social networking addiction, while identity achievement could decrease the probability for SNA. The results of the present study confirm the findings of the study done by Hsieh, Hsiao, Yang, Lee & Yen (2019) which states that the severity of self-identity confusion was positively associated with the severity of internet addiction.

Adolescents with self-concept deficits may seek the internet to anonymously interact with others as a means of obtaining positive

Pathway – c

Direct effect, b = -1.69, p < .001
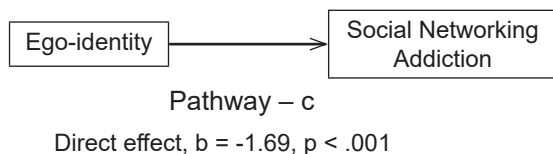
Figure 1. Total Effect Model
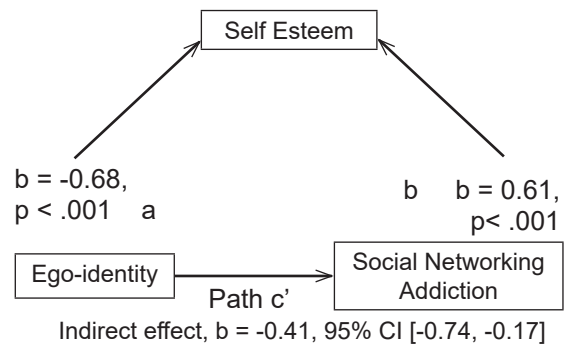
Indirect effect, b = -0.41, 95% CI [-0.74, -0.17]

Path values show path coefficients (Standard errors). ***p < 0.001.

Figure 2. The Simple Mediation Model.

experiences that they may lack in real world. For an adolescent with an unclear description of who he or she is and has difficulties in social roles, values and intimate relationships, the virtual world may be a tempting environment to achieve success through gaming or other activities (Hsieh, Hsiao, Yang, Lee &Yen, 2019). This could explain why factors that undermine self-concept formation could increase the risk for addiction in adolescents.

The direct effect of the ego-identity (predictor variable) on self–esteem (mediating variable) denoted by path 'a' was also estimated using regression. The results of the regression analysis showed that ego-identity has a statistically significant effect on self-esteem (b = -0.68, p < 0.001). Therefore, H3 which states that there will be a significant direct effect of ego-identity on self-esteem has been accepted. A study done by Behzat; Turan & Koç (2018) shows that general self-efficacy levels of the students will increase with the positive development of ego-identity status but self-esteem in adolescents does not exclusively depend on identity achievement. Research suggests that most identity formation occurs during young adulthood (Côtè, 2006). Often, younger adolescence will enter a phase of foreclosure where they may, at least preliminarily, commit to an identity without an investment in the exploration process and this stage may persist into adulthood if exploration was seen unnecessary or when options for exploration were limited. Self-esteem in adolescents could be predicted from social support, body-image,

school adjustment and family harmony (Han & Kim, Taehan, Kanho, Hakhoe, Chi, 2006).

A regression predicting the outcome from both ego-identity and self-esteem on social networking addiction was found to be significant. Ego-identity significantly influenced self-esteem (b=-.68, p<.001) and self-esteem in turn, significantly influences social networking addiction (b = .61, p <.001). Thus, hypothesis H4 which states that there will be a significant direct effect among ego-identity, self-esteem and social networking addiction is accepted.

The mediation analysis was performed using the process of Macro by Preacher and Hayes. The total effect showed a standardized co-efficient of -.34 (direct effect), which has been reduced to -.28 with the inclusion of mediating variable yielding a statistically significant point estimate of b= -.41. There was a statistically significant indirect effect of ego-identity on social networking addiction through self-esteem. The SOBEL test and bootstrapping for normal distribution was done to estimate the size of mediation effect and it was found to be highly significant. Nevertheless, both are statistically significant having a direct effect and an indirect effect leading from ego-identity to social networking addiction, the results show that self-esteem exerts a partial mediating role between ego-identity and SNA, with a mediating effect value of -0.41. Thus, hypotheses H5 which states that there will be a significant and indirect effect of ego-identity on social networking addiction through self-esteem was accepted.

While there are studies which show that social media use lowers self-esteem, there is no evidence that people with high self-esteem abstain from it. This fact is supported by evidence that people with high self-esteem including influencers and celebrities still use social media to project their public profile. Comparing oneself with others has become an unavoidable behavior pattern in the present day context especially in developing adolescents.

The results of the study show that a positive correlation between self-esteem and social media use is not common, but it is not completely unlikely either. Similar results are shown in studies by Saiphoo, 2020; Burke et al, 2013; Valkenburg, et al 2017; Gonzales et al, 2011; Meier et al 2018, which showed that intense use of SNS is associated with higher self-esteem. Furthermore, experimental studies and cross-sectional studies suggested that SNS use is associated with positive changes in self-esteem though might be momentary. Individuals may benefit from SNS use with the intention to satisfy their social needs, and thus resulting in higher self-esteem. This is in accordance with research depicting positive outcomes of SNS use on psychological well-being and academic experiences (Wang, 2019). Explanation for this unexpected result could come from the study carried out by Lim et al (2021) which concluded that social media use was negatively related to self-esteem, but only when their social network size was within an evolutionarily familiar level. Young adults and adolescents are the ones who frequently use SNS who view it as part of their daily life and thus they have a larger social network compared to other population groups. Further research might be carried forward for better understanding of social network size and its relationship between SNS use and self-esteem.

To sum up, the direct effect of ego-identity on SNA is well established. This implies that adolescents with mere well-established ego-identity with or without high levels of self-esteem exhibit lower probability for social networking addiction and vice versa. The indirect effect of ego-identity gives evidence that even with adolescents who tend to have vague ego-identity or not so well established ego-identity, but high on self-esteem construct tend to have higher probability of social networking addiction than those who have much lower self-esteem. There is a statistically significant causal influence of self-esteem on SNA but does not eliminate the risk of becoming addicted to social media as it provides opportunities for companionship and a temporary sense of well-being. Research has shown that though social media use could lower self-esteem it is positively associated with life satisfaction (Hawi, Nazir & Rupert, Maya, 2016).

Findings of the Study

- There is a significant and negative correlation between ego-identity and social networking addiction.
- There is a significant and negative correlation between ego-identity and self-esteem.
- There is a significant and positive correlation between self-esteem and social networking addiction.
- There is a significant and partial mediation in the model predicting social networking addiction through self-esteem.

Implications of the Study

This study embodies both vital theoretical and practical implications. This study enriches the existing literature grounded in several theories by identifying the mediating roles of self-esteem toward the use of social networking sites. The exploration of psychological processes underlying individuals' use of social networking sites contributes to the understanding of the causes of under-developed ego-identity and self-esteem. The following are some of the practical implications of the study. Firstly, the presented findings identify ego-identity development as a crucial risk factor of SNA. Therefore, it is necessary to remind teenagers, who are identified to have underdeveloped ego-identity that specific approaches can be adapted to help then have a better self-concept and understanding of self. Secondly, the presented findings indicated that self-esteem sequentially mediate the link between ego-identity and adolescents' SNA. This result indicates that self-esteem could help in the reduction or increase in SNS addiction. Moreover, potential risk factors (e.g., low ego-identity and high self-esteem) should not be ignored.

Limitations

1. All data in this study were collected through adolescents' self-reports, which might be affected by social desirability.
2. The study employs a cross sectional design, hence there is no way to know if the relationships established in the study for the adolescence persist through adulthood.

Suggestions for future research

- Researchers can focus on other variables than self-esteem acting as a mediator in the relationship between ego-identity and social networking addiction.
- Further studies can focus on underlying reasons for self-esteem having positive correlation with social networking addiction.

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