

Development and Validation of Test for Instagram Addiction (TIA)

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ABSTRACT

The study deals with the development and validation of a test for Instagram addiction for adolescents and adults. Now a days there is a drastic shift in the usage of Facebook to Instagram, the authors planned to develop and validate a new test for Instagram addiction. A total of 327 individuals ranging from students in various disciplines to adults working in various fields was selected through simple random sampling and considered for the present investigation. The authors in consultation with the experts formulated an inventory having 34 statements pertaining to Instagram addiction among adolescents and adults. After initial face validation, the test was administered to more than 400 individuals, only 327 filled inventories were considered for development of TIA, after filtering the inventories for completeness and erratic answering. Later, the data were subjected to factor analysis and 6 components were derived through Factor analysis, which included components like Lack of control, Disengagement, Escapism, Health and interpersonal troubles, Excessive use and Obsession. The total variance explained in this inventory was 59.48%. To find out the reliability, the Cronbach's reliability test was done and the alpha value obtained for the total inventory was 0.931 and for various components varied from 0.680 to 0.863. Further, when item to total scores correlations were performed; all the correlation coefficients obtained through Pearson's product moment correlation techniques were found to be highly significant, indicating that the TIA has high reliability and validity. Even the correlation coefficients obtained between components were found to be highly significant.

Keywords: *Instagram, Addiction, Adolescents, Adults*

Smart phones, which are often termed as smarter than the user indeed has more features because it serves the purpose of camera, web browser, GPS navigation, calculator, media player etc. With the internet connectivity through WiFi and mobile broadband, we almost

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have everything at our finger tips. These advantages have brought a lot of help to the world but also problems like addiction, psychosocial and physical issues.

The advancement of this technology has brought lot of changes in the society. It is seen that communication has become easier and also had found new platforms. This has made the screens interesting than interacting with others. Many researches done on addiction on the mobile phones and other application has shown that even kids below 10 years own a smart phone and are a part of many social networking sites. As these apps are user friendly it is seen that all age groups are a part of some social networking site and are active users. People use social networks for many reasons like messaging, playing games, entertainment and to be updated about the recent happenings. This makes people more addicted to the phone and the apps. According to Statista, as of January 2018 data, the global mobile population amounted to 3.7 billion unique mobile population (<https://www.statista.com/topics/779/mobile-internet>). A study conducted by Pontes and Patrao (2014) found out that most preferred online activities were social networking and information seeking(64%) and followed by emailing/ online chatting (61%). Recent studies have reported that internet addiction adversely affected sleep quality (D'Souza, Samyukta & Tejaswini, 2018), and reduced psychological wellbeing of adolescents (Mahadevaswamy & D'Souza, 2017a). However, internet addiction did not affect subjective wellbeing of the adolescents (Mahadevaswamy & D'Souza, 2017b).

A review of online social networking and addiction has found that extroverts use social networking sites for social enhancement whereas introverts for social compensation (Kuss& Griffiths, 2011). This shows how each personality uses the social media and the other similar platforms. Certain studies have shown that the people who use more social networking sites go through significant changes in the way they communicate and interact. But it is also unclear how these changes affect normal aspects of behaviour and cause disorders (Pantic, 2014). Pantic et al, (2012) in their study on high school students found out significant positive correlation between depressive symptoms and the time spent on social networking sites, however contradictory findings were reported by Jelenchick, Eickhoff and Moreno (2013), who reported no such effects. Thus the findings revealed so far are ambiguous and inconclusive.

The present study is on one such social networking app- Instagram. This photo sharing social networking app launched in the year 2010 has more than one billion monthly active users worldwide as of June 2018. Instagram is one of the most popular social networking apps in smart phones with high levels of user engagement and is one of the fastest growing social networking sites at present. This media provides a platform for sharing photographs videos and messages in private and public way. One study found that people often posted images with the hashtag# funeral, which often communicated a person's emotional circumstances and also the shifts in commemorative and memorialization practices (Gibbs, Meese, Arnold, Nansen, & Carter, (2015). This shows the new way of expression or feelings that the people have taken up in the recent times. Another study, Instagram: motives for its use and

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relationship to narcissism and contextual age, done on college students revealed that the main reasons for Instagram use are “Surveillance/Knowledge about others,” “Documentation,” “Coolness,” and “Creativity.” They also found out that there is a positive relationship between using Instagram to be cool and for surveillance (Sheldon & Bryant, 2016).

A review on measures of addiction on various social networking applications revealed the following. Xanidis and Brignell (2016), developed a scale on Social media use questionnaire to measure problematic media usage. To measure Facebook addiction scale, Bergens Facebook Addiction Scale was developed in the year 2012 by Andreassen, Torsheim, Brunborg and Pallesen (2012). To measure Smartphone addiction among adolescents, Kwon, Kim, Cho and Yang (2013), developed and validated a scale. Escurra and Salas (2014) developed a scale to measure social network addiction. None the less, Fidan (2016) developed and validated mobile addiction scale using components of model approach. Kircaburun and Griffiths (2016) studied Instagram addiction and big five personality, where they used modified version of the Internet addiction scale developed by Young (1998), to measure Instagram addiction. They simply replaced the word Instagram to Internet. However, the authors could not find any specific scale to measure Instagram addiction, more so in Indian scenario. Moreover, now a days there is a drastic shift in the usage of Instagram from Facebook, as observed by the authors in their field work on other assignments. Hence, the authors planned to develop and validate a measure to assess the extent of Instagram addiction among adolescents and adults.

This study tries to develop and validate a test for Instagram addiction (TIA) having major components involved in the Instagram addiction to be considered. The study would be Factor analytic one so that the components derived from the analysis can be finally used to analyse the extent of Instagram addiction from adolescents to adults.

METHOD

Participants:

To develop and validate the Test for Instagram addiction (TIA) a total of 400 participants were selected through random sampling from two states of India- Karnataka and Kerala and 337 responses were considered for the research. Responses from the individuals were collected through Google forms also. Out of 327 participants, 170 were males and 157 were females, and their age varied from 16 to 40 years. The participants' consent was taken while answering the statements on Test for Instagram addiction.

Tool construction:

Initially 34 statements were developed by the authors confirming face validity (Table 1). The test was developed on the basis of standard test construction measures. While formulating the statements, several questionnaires/inventories/checklists related to addiction to various social media were referred. 5 point Likert scale was used for scoring ranging from All the time (5), most of the time (4), sometime (3), once in a while (OW), rarely/never (1). To construct the statements, assistance was taken from stakeholders like students, working men,

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working women and others. Later the inventory was given to expert validation to 2 psychologists, 2 educationists and one sociologist. After these subject experts established the content validity of the statements pertaining to Instagram addiction, the TIA was administered to respondents from the age group of 16 to 40 years in two states-Karnataka (mostly Mysuru and Bengaluru) and Kerala (Kannur, and nearby places) including male and female respondents. To reach far off places even Google forms were used, the authors got several responses through Google forms.

Table 1 Initial statements/items

STATEMENTS	AT	MT	ST	OW	N/R
1. I often upload photos or videos on Instagram.					
2. I feel compelled to post pictures soon after a meeting or an event.					
3. I feel unhappy over the number of likes and the comments I get.					
4. I keep checking how many people have liked or commented or viewed my posts.					
5. I keep checking what the recent updates or the current trends are.					
6. I become restless when I am denied/ unable to use Instagram..					
7. I don't get enough time to do things which I previously used to.					
8. I am updated about the recent happenings through Instagram					
9. I feel preoccupied with Instagram when offline.					
10. I prefer to spend more time online rather than going out with others.					
11. I get irritated when someone bothers me while using Instagram.					
12. I block disturbing thoughts by using Instagram.					
13. I use Instagram when I am stressed.					
14. When I want to get away from certain thoughts I use Instagram.					
15. I use Instagram as a get away from reality.					
16. I find myself online longer than thought					
17. I try to hide my time spent on Instagram from others.					
18. I lose sleep due to excessive use of Instagram.					
19. My performance or productivity (work/ studies) has been affected due to Instagram.					
20. I am not able to concentrate on my studies/work due to Instagram use					
21. My routine is disturbed due to use of Instagram.					
22. I feel depressed, anxious or moody when I am offline, which goes when I am online.					
23. I forget to eat in time due to use of Instagram.					
24. I say "just a few more minutes" to myself when online but continue to use it.					

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STATEMENTS	AT	MT	ST	OW	N/R
25.I try to cut down the usage of Instagram but fail to do so.					
26.People often comment negatively on the amount of time I spend on Instagram					
27. Going to Instagram is the first thing I do when I wake up.					
28. I feel energized and happy while using Instagram					
29. I feel like I am missing something when I am unable to use Instagram					
30. I have an urge to spend more and more time on Instagram.					
31. I spend longer time than what I meant to on Instagram.					
32. I have backache due to use of Instagram					
33. Since I started using Instagram, my interactions with my family has reduced					
34.Instagram use has negatively affected my physical health					

Analysis

Once the data were collected through individual survey and Google forms, they were verified for completeness, coded and fed to computer. Later the data were analysed through Factor analysis using Principal Component analysis with Varimax rotation.

Results of Factor Analysis

When exploratory factor analysis was used for the statements employed in the research following results were obtained.

1. Kaiser-Meyer-Olkin Measure of Sampling Adequacy value for the entire test was found to be 0.942, which is found to be highly adequate. In other words, it clearly indicated that the sample employed for the present study to perform Factor analyse was highly adequate.
2. Secondly Bartlett's test of sphericity with chi-square value of 5805.13 which was found to be highly significant at .001 level. The total variance explained in this inventory was 59.48%.
3. Using SPSS software windows, varimax of orthogonal rotation was employed using PCA (principal component analysis). Factor analysis extracted 6 components out of 35 statements through rotated factor matrix. .
4. Only 26 statements (out of 35 statements) were considered for the final version taking into consideration factor loadings of 0.5 and above through rotated factor matrix. The details of which are given in table 2

Table 2 Factor loadings (0.5 and above) and derived components through factor analysis (Rotated factor matrix)

Statements/ Items	Components					
	1	2	3	4	5	6
S01						.700
S02						.688
S03						.561
S04						.600

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Statements/ Items	Components					
	1	2	3	4	5	6
S05			.571			
S06					.604	
S12			.587			
S13			.679			
S14			.778			
S15			.563			
S17					.543	
S18						
S19	.667					
S20	.640					
S21	.576					
S22						
S23				.678		
S24	.644					
S25	.642					
S26		.513				
S27		.694				
S28		.617				
S29		.601				
S30		.621				
S31		.606				
S32				.639		
S33				.669		
S34				.751		
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 12 iterations						

Finally out of 34 statements, 26 statements were retained on the basis of factor loadings and remaining 8 statements were not included in the final version of TIA. After studying statements under each component, authors provided component names.

Table 3 presents the selected statements for Instagram addiction under 6 components
Table 3 Statements selected on the basis of Factor loadings (Final version)

Sl. number	Original number	Statement/Item
C1: Lack of control		
1	19	My performance or productivity (work/ studies) has been affected due to Instagram.
2	20	I am not able to concentrate on my studies/work due to use of Instagram.
3	21	My routine is disturbed due to use of Instagram.
4	24	I say "just a few more minutes" to myself when online but continue to use it.
5	25	I try to cut down the usage of Instagram but fail to do so.

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Sl. number	Original number	Statement/Item
C2- Disengagement		
6	26	People often comment negatively on the amount of time I spend on Instagram
7	27	Going to Instagram is the first thing I do when I wake up.
8	28	I feel energized and happy while using Instagram
9	29	I feel like I am missing something when I am unable to use Instagram
10	30	I have an urge to spend more and more time on Instagram.
11	31	I spend longer time than what I meant to on Instagram.
C3- Escapism		
12	5	I keep checking what the recent updates or the current trends are.
13	12	I block disturbing thoughts by using Instagram
14	13	I use Instagram when I am stressed.
15	14	When I want to get away from certain thoughts I use Instagram
16	15	I use Instagram as a get away from reality.
C4- Health and interpersonal troubles		
17	23	I forget to eat in time due to use of Instagram.
18	32	I have backache due to use of Instagram
19	33	Since I started using Instagram, my interaction with my family has reduced.
20	34	Instagram use has negatively affected my physical health.
C5: Excessive use		
21	6	I become restless when I am denied/unable to use Instagram
22	17	I try to hide my time spent on Instagram from others.
C6: Obsession		
23	1	I often upload photos or videos on Instagram.
24	2	I feel compelled to post pictures soon after a meeting or an event.
25	3	I feel unhappy over the number of likes and the comments I get.
26	4	I keep checking how many people have liked or commented or viewed my posts

Each component can be briefly conceptualized as follows:

1. **Lack of control:** Due to the use, the performance or productivity of a person seems to be affected and he/she finds it difficult to cut down the usage.
2. **Disengagement:** Refers to engaging is more on Instagram activities, use and involvement, and withdrawing involvement in an social activity, people or group.
3. **Escapism:** Using Instagram as a source to escape from reality or get distracted from the reality
4. **Health and interpersonal troubles:** Higher scores in this components shows that there is disturbance in physical health and also in the interpersonal relationships.
5. **Excessive use:** Being secretive about the use and becoming restless when it is denied.
6. **Obsession:** Obsession towards the content in Instagram, feeling compelled to post pictures and check the response to it.

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Reliability Analysis

Further reliability analysis was done through Cronbach alpha for each of the component and total items of TIA. This was to ensure repeatability of the TIA and consistency. The results are shown in the table below.

Table 4 Reliability coefficients for components extracted and for the total statements.

Component	Name	Statement/item Numbers	No. of items	Reliability
1	Lack of control	1,2,3,4,5	5	0.863
2	Disengagement	6,7,8,9,10,11	6	0.848
3	Escapism	12,13,14,15,16	5	0.812
4	Health and interpersonal troubles	17,18,19,20	4	0.786
5	Excessive use	21,22	2	0.758
6	Obsession	23,24,25,26	4	0.680
	Total	All items/statements	26	0.931

The reliability coefficients varied from 0.680 to .863, which further confirmed that those statements employed in the development of the TIA were highly reliable.

Item to total scores correlations

Table 5 Item to total correlation of the statements considered

Statement/Item No.	Correlation coefficient	Significance	Item no.	Correlation coefficient	Significance
1	.712	.001	14	.635	.001
2	.735	.001	15	.634	.001
3	.704	.001	16	.685	.001
4	.621	.001	17	.610	.001
5	.629	.001	18	.563	.001
6	.655	.001	19	.599	.001
7	.626	.001	20	.469	.001
8	.595	.001	21	.667	.001
9	.719	.001	22	.722	.001
10	.670	.001	23	.388	.001
11	.643	.001	24	.431	.001
12	.537	.001	25	.485	.001
13	.575	.001	26	.555	.001

The item to total scores correlations was performed through Pearson's product moment correlation techniques. All the obtained correlation coefficients were found to be positive and significant at .001 level and varied from 0.388 to 0.735.

Relationship between components

Table 3 Inter component correlation matrix

		c2	c3	c4	c5	c6
c1	Correlation coefficient	.679	.587	.582	.619	.402
	P value	.001	.001	.001	.001	.001
c2	Correlation coefficient		.632	.544	.637	.426
	P value		.001	.001	.001	.001
c3	Correlation coefficient			.434	.651	.428
	P value			.001	.001	.001
c4	Correlation coefficient				.461	.388
	P value				.001	.001
c5	Correlation coefficient					.408
	P value					.001

The inter relation between 6 components were found to be highly significant. They ranged from .388 to .679. All of the obtained correlation coefficients were found to be significant at .001 level.

DISCUSSION

The main aim of the study was to develop a test which measures the addiction in Instagram. According to the various reliability and validity tests referred to above, the Test for Instagram addiction (TIA) showed valid and good results. After factor analysis, six factors were obtained that were given proper wordings/nomenclature. The researchers requested few experts to retouch, correct and obtain the names of the various factors, such as Lack of control, Disengagement, Escapism, Health and interpersonal disturbance, Excessive use and obsession. The reliability coefficients of the statements employed shows that TIA is highly reliable with the coefficients which varied from 0.680 to 0.863. The test, which measures addiction in 6 components is highly significant ranged from .388 to .679. All of the obtained correlation coefficients were found to be significant at .001 level. High score on the individual components or total addiction reflect higher addiction on Instagram.

Addiction of any nature affects bio- psycho-social functioning of the individual negatively. In today’s world technology addictions are wide spread, and not even children are spared. Instagram usage is the latest trend among adolescent and adults, which affects their education and work settings adversely. Developing tests like TIA have clinical implications to study the individual’s extent of Instagram addiction and its impact on psychosocial functioning, so that necessary strategies/therapies can be planned to help out the individuals trapped in Instagram addiction.

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Conflict of Interest

The authors declare this paper to bear not conflict of interests

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