

A Descriptive Study to Assess the Level of Internet Addiction among Adolescents: A Case Study of High Schools in Mangalore

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Received date: May 19, 2018; Accepted date: Jun 14, 2018; Published date: Jun 24, 2018

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Abstract

Adolescents are more vulnerable to internet addiction (IA) as they have less ability to control their enthusiasm for internet activities. In this study, a descriptive approach was used to assess the level of IA and its impact among high school students. A conceptual framework was based on Roy's Adaptation Model. The tool consisted of a baseline proforma, a modified form of IA test and a structured questionnaire developed during the study. Those tools were employed to assess the level of IA and its impact among adolescents of English medium high schools. Opinions from fourteen experts were used to modify the tools for the validity. The reliability of the tool was determined by using a split half technique. The reliability was measured by Karl Pearson's coefficient correlation and was found to be reliable. The study revealed that majority (70.5%) of the adolescents were normal users, 23% had a mild addiction, 6% had a moderate addiction and 0.5% had a severe addiction. The majority (73%) of samples had a mild impact, 16.5% had a moderate impact, and 10.5% had no impact. Some of their demographic variables like age, class, and occupation of fathers have significant associations with both IA and impact of IA.

Keywords: Adolescence; High school; Impact; Internet addiction

Introduction

The Internet is no longer merely an infrastructure; it has become an unlimited space for information exchange, social networking, and the development of cyber behaviours [1]. It is a network of networks that consists of private, public, academic, business and government networks of local to global scope that is linked by a broad array of electronic and optical networking technologies. By the advent of the internet, our earth has reduced and has attained the form of a global village [2]. It has brought people closer together by enabling various forms of interpersonal communication, notably e-mail, instant messaging, video conferencing, and social networking. In a very short period, it has become difficult for most of us to imagine a world without instant and continuous access to the internet [3].

According to a report published in 30th June 2014, the world's Internet user base was around 3 billion, in which approx. 1.4 billion users are from Asia. The higher IA, i.e., 45.7% is from Asian countries (Indians are the highest users in Asia). There has been an explosive growth of Internet usage worldwide and this is expected to continue with its use becoming an integral part of everyday life. The Internet provides tremendous educational benefits; however, excessive Internet use can lead to negative outcomes such as poor school performance and social isolation [4].

The concept of IA, which was first used by Goldberg in 1995, has recently turned out to be a phenomenon. This phenomenon is defined through various terms such as "net addiction", "online addiction", "IA disorder", "pathologic internet use" and "cyber disorder" [5]. Young [6] linked excessive internet use most closely to pathological gambling, a disorder of impulse control in Diagnostic and Statistical Manual of

Mental Disorders (DSM-IV) and adapted the DSM-IV criteria to relate to internet use in the IA Test (IAT).

Healthy internet use is the use of the internet for an expressed purpose in a reasonable amount of time without cognitive or behavioral discomfort whereas problematic internet use or IA is a psychiatric condition that involves maladaptive thoughts and pathological behaviour. Now it is difficult to estimate how widespread this IA in adolescents is. The major symptoms of IA include 1) pre-occupation with the internet, 2) withdrawal symptoms – restless or irritability including a feeling of anger, tension, depression when the computer is inaccessible, 3) repeated unsuccessful effort to control, cut back or stop internet and so on.

Although people in all segments of the society use the Internet, especially adolescents are the most frequent users and thus more vulnerable to IA [7]. The most part of this attraction is due to their development stage and they have less ability to control their enthusiasm for Internet activities. Adolescence is a period of the lifecycle when individuals are managing multiple and complex developmental tasks. These involve significant changes in biological, physical, social, psychological, emotional, and community-relatedness domains [8]. It is also the most volatile and unstructured and the most mouldable phase [9] in which they look for and experience different identities, social and emotional relationships, academic and working careers, and entertainment outlets [10]. In addition, the availability of internet on the mobiles and the computer/laptops makes them access the internet very easily, thus there is a chance of IA.

Now there is a flood of social networking sites. In the emerging era, adolescents have been exposed more than ever to the internet. Psychiatrists say they receive more than five to six cases of psychological problems caused by the overuse of internet almost every day. The problems include lack of attention or focus, difficulty in processing real-time information, anxiety, and mood swings. It leads to

irregular sleeping habits, which can cause other health problems [11]. It may still remain a matter of debate whether IA has impacts on adolescence or not [9]? There are an urgent needs and emergencies to sensitise both students and parents about the negative effects of IA. Parents and guardians should pay proper attention about what their children are doing on the internet?

Young [6] conducted the IAT with 987 adolescents where it was found that those with excessive use internet had high scores on anxiety, depression, and anxiety depression. The result also revealed that there is no significant relationship between IA and the hours of use. Another similar studies [1,12-20] revealed that IA is growing problems. The highest ranked online activities were watching videos, frequent chat rooms, social networking, playing games etc. The internet dependents delayed their regular work to spend their time online, lost sleep due to late-night logins and felt life would be boring without the internet.

Some of the studies [4,21-24] investigated the level of IA and factors associated with IA. Some studies [9,10,25-34] assessed the impacts of IA on daily lives. The relations of IA to socio-educational characteristics, demographic characteristics, and internet usage patterns and adolescents behaviour were evaluated.

This study feels the need to assess IA and its impact on academic performances, family and social life on adolescence. The Modified form of IAT developed by Young [6] has been used to assess the level of IA. We have also developed the structured questionnaire to assess the impact of IA on adolescents.

Objectives of the Study

- To assess the level of IA among adolescents studying in selected high schools.
- To assess the impact of IA among adolescents studying in selected high schools.
- To find out the correlation between the level of IA and its impact on adolescents studying in selected high schools.
- To find out the association between levels of IA among adolescents studying in selected high schools and their selected demographic variables.
- To find out the association between the impact of IA among adolescents studying in selected high schools and their selected demographic variables.

Materials and Methods

The conceptual framework of the study has been developed based on Roy's Adaptation Model (Figure 1). The tool consisted of a baseline (demographic) proforma, a modified form of IAT and a structured questionnaire developed during this study, was used to assess the level of IA and its impact among high school adolescents. The tool was submitted to 14 experts (2 Psychologist, 2 psychiatric nursing, 9 Paediatric Nursing and 1 medical officer of primary health centre). They suggested some revisions and finally, the tool was reframed (see the supplement section for the final tool).

The pilot study was conducted at St. Ann's High School, Derebail in a north block and Sacred Heart High School, Mangalore in a south block from 20/01/2016 to 23/01/2016. The data were collected from 10 students from the north block and 10 students from the south block high schools. The above-mentioned tool was applied. We found the

tool to be valid, reliable and feasible. Hence, we decided to conduct further research. We randomly selected two English medium high schools, one from the south block, St. Lawrence High School and one from the north block, St. Joseph High School. From the selected High Schools any one section from each 8th, 9th and 10th standard were selected randomly and students from each were selected by proportionate random sampling (see Figure 2 for detailed information of sampling process). 200 adolescents were selected by multistage random sampling technique. The data collection period was from 01/02/2016 to 26/02/2016.

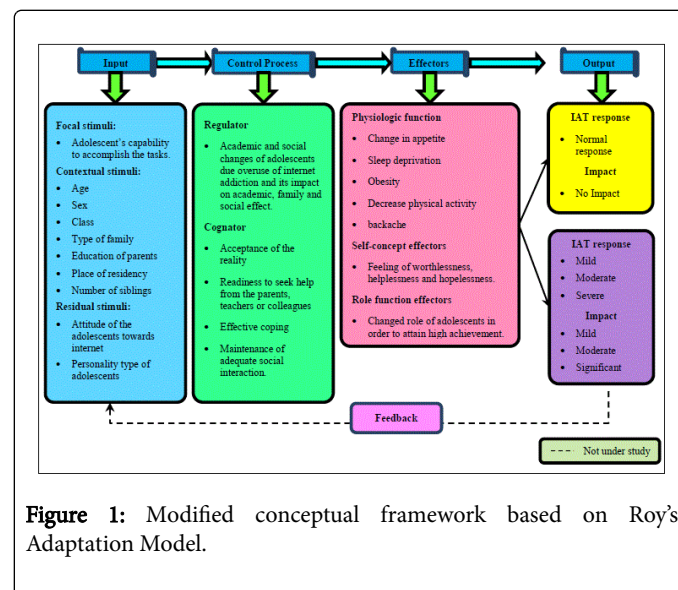


Figure 1: Modified conceptual framework based on Roy's Adaptation Model.

The data were analysed using descriptive and inferential statistics. Karl Pearson's correlation coefficient test was used to find out the correlation between the level of IA and its impact on adolescents. Chi-square test was used to find the association between the IA with their demographic variables. The hypotheses were tested at 0.05 level of significance:

H_{01} : No significant correlation between the level of IA and its impact.

H_1 : Significant correlation between the level of IA and its impact.

H_{02} : No significant association between level of IA and their selected demographic variables.

H_2 : Significant association between level of IA and their selected demographic variables.

H_{03} : No significant association between impacts of IA and their selected demographic variables.

H_3 : Significant association between impacts of IA and their selected demographic variables.

Results and Discussions

The level of IA and impacts of IA are shown in Figure 3. The study revealed that 70.5% were normal users, 23% had a mild IA, 6% had a moderate addiction, and 0.5% had a severe addiction. The study also revealed that 73% had a mild impact, 16.5% had a moderate impact, 10.5% had no impact while none had a significant impact due to IA.

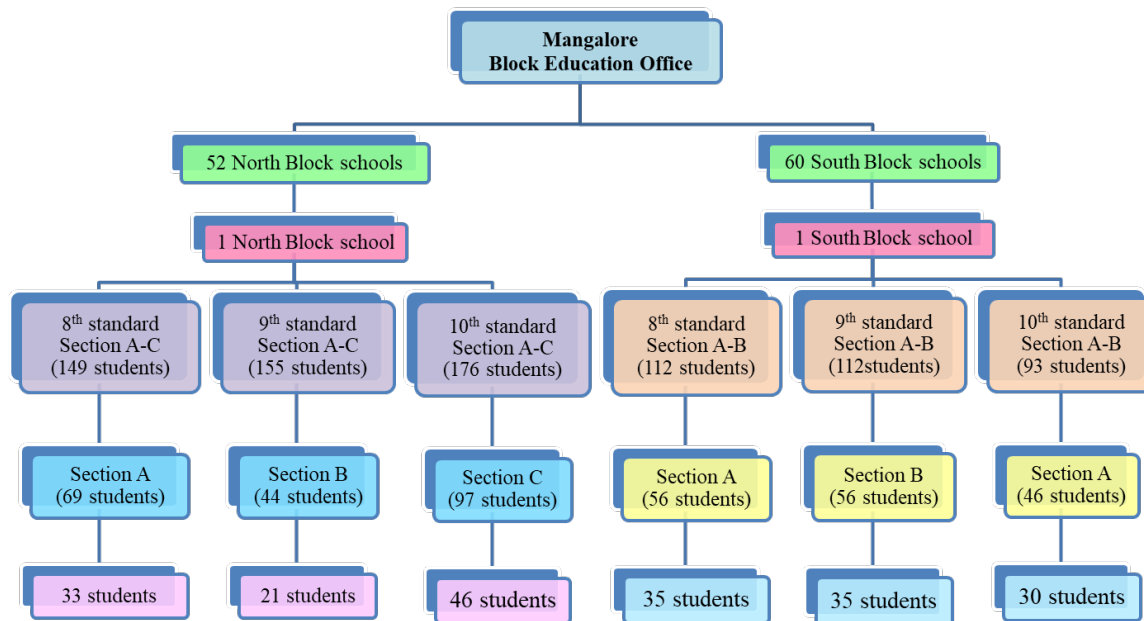


Figure 2: Schematic representation of multi stage random sampling.

The scatter diagram of the level of IA and its impact is shown in Figure 4. There is a positive correlation between the level of IA and its impact among high school student with $r=0.678$ and $P=0.000$. The null

hypothesis (H_{01}) was rejected and the research hypothesis (H_1) was accepted at 0.05 level of significance. This revealed that the level of IA was correlated with impact due to IA.

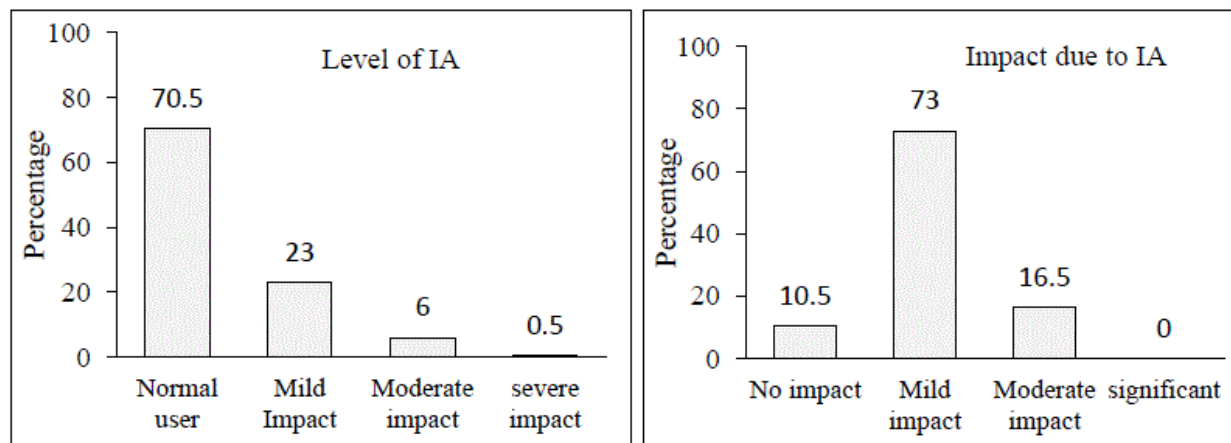


Figure 3: The level of IA (left) and impacts due to IA (right).

The association between the level of IA and their selected demographic variables are shown in Table 1.

The study revealed that there was a significant association between IA among adolescents studying in selected high schools with some of their selected demographic variables, viz., age, class, number of siblings and occupation of father of high school students and the null

hypothesis (H_{02}) was rejected. Whereas no significant association was found with rest of variables, viz., gender, religion, types of family, presently residing, place of residency, education of father, education of mother, occupation of mother and mode of internet access. And the null hypothesis (H_{02}) was accepted.

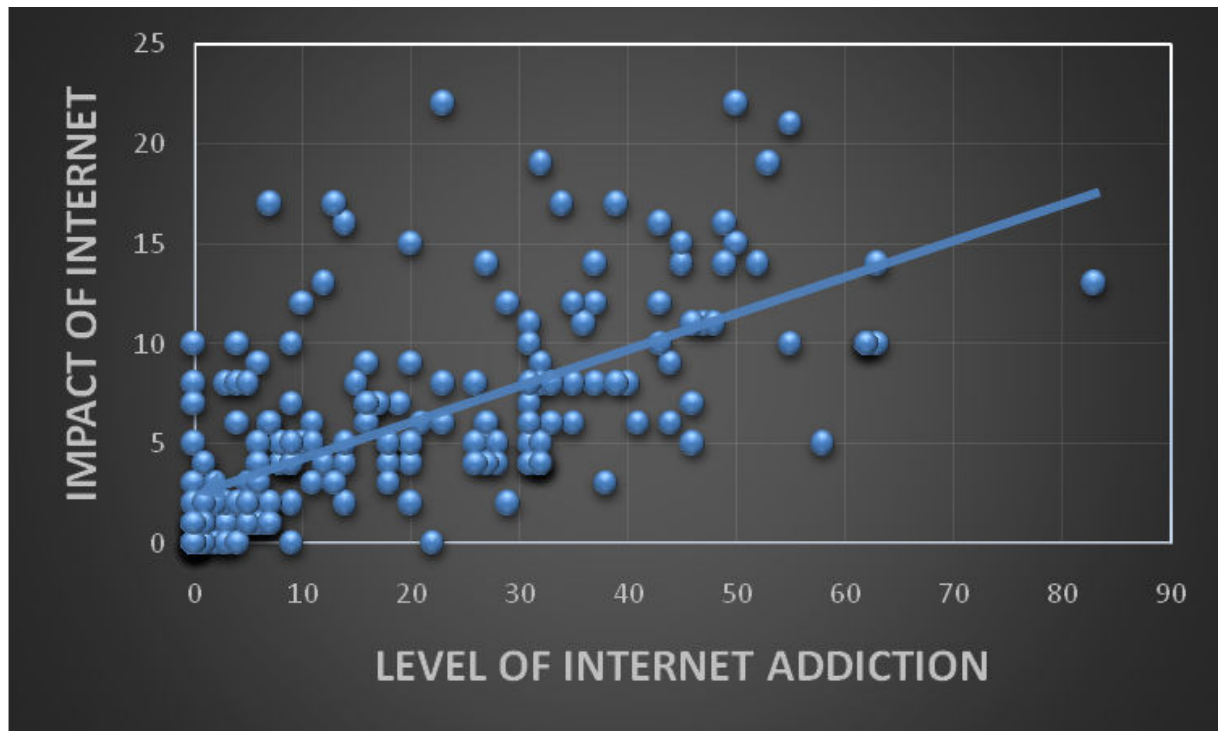


Figure 4: Relationship between the level of IA and its impact.

Variables	Level of internet addiction				χ^2 Value
	Normal users	Mild	Moderate	Severe	
1. Gender					
a. Male	68	30	6	1	4.95
b. Female	73	16	6	0	
2. Age in years					
a. 12 years	3	0	0	0	34.26*
b. 13 years	43	9	0	0	
c. 14 years	52	9	0	1	
d. 15 years	35	22	9	0	
e. 16 years	8	6	3	0	
3. Class					
a. 8th standard	57	11	0	0	28.33*
b. 9th standard	44	10	1	1	
c. 10th standard	40	25	11	0	
4. Religion					
a. Hindu	94	20	7	0	13.132
b. Muslim	8	8	1	0	

c. Christian	38	18	4	1	
d. Others	1	0	0	0	
5. Type of family					
a. Nuclear	101	32	9	0	3.631
b. Joint family	34	12	3	1	
c. Extended	0	0	0	0	
d. Single parent family	6	2	0	0	
6. Number of siblings					
a. Only child	15	7	3	0	21.64*
b. One	76	13	0	1	
c. Two	43	21	7	0	
d. Three and more	7	5	2	0	
7. Presently residing					
a. With family	140	46	12	1	0.42
b. Far away from family	1	0	0	0	
8. Place of residency					
a. Urban area	120	41	12	1	2.574
b. Rural area	21	5	0	0	
9. Education of father					
a. No formal education	1	1	1	0	14.008
b. Primary school	13	2	0	0	
c. Higher primary school	11	4	1	0	
d. High school	50	22	7	1	
e. PUC/diploma	13	3	1	0	
f. Degree/professional	45	10	2	0	
g. Post-graduation and above	8	4	0	0	
10. Education of mother					
a. No formal education	4	0	1	0	20.49
b. Primary school	7	5	0	0	
c. Higher primary school	8	5	1	0	
d. High school	42	13	6	0	
e. PUC/diploma	44	7	2	0	
f. Degree/professional	13	3	0	0	
g. Post-graduation and above	23	13	2	0	
11. Occupation of father					
a. Unemployed	1	0	2	0	28.53*

b. Daily wages	31	7	4	0	
c. Government employee	31	8	3	0	
d. Private	38	18	2	0	
e. Business	40	13	1	1	
12. Occupation of mother					
a. Homemaker	79	28	8	1	10.87
b. Daily wages	11	6	3	0	
c. Government	24	5	0	0	
d. Private	15	6	1	0	
e. Business	12	1	0	0	
13. Mode of internet access					
a. Mobile /Tablets/iPad	115	36	12	1	3.64
b. Personal computer	13	6	0	0	
c. Cyber	13	4	0	0	
P<0.05 *Significant					

Table 1: Chi-square values showing the association between the level of IA among high school students and their selected demographic variables.

The association between the impact due to IA and their selected demographic variables are shown in Table 2.

Variables	Impact of internet addiction				χ ² Value
	No Impact	Mild	Moderate	Significant	
1. Gender					
a. Male	11	65	29	0	20.29*
b. Female	10	81	4	0	
2. Age in years					
a. 12 years	0	2	1	1	30.01*
b. 13 years	9	40	3	3	
c. 14 years	10	48	4	4	
d. 15 years	1	47	18	18	
e. 16 years	1	9	7	7	
3. Class					
a. 8th standard	10	53	5	0	24.70*
b. 9th standard	10	41	5	0	
c. 10th standard	1	52	23	0	
4. Religion					
a. Hindu	14	92	15	0	6.26
b. Muslim	0	13	4	0	

c. Christian	7	40	14	0	
d. Others	0	1	0	0	
5. Type of family					
a. Nuclear	15	104	23	0	7.31
b. Joint family	3	38	9	0	
c. Extended	0	0	0	0	
d. Single parent family	3	4	1	0	
6. Number of siblings					
a. Only child	3	20	2	0	8.63
b. One	14	63	13	0	
c. Two	4	53	14	0	
d. Three and more	0	10	4	0	
7. Presently residing					
a. With family	20	146	33	0	8.56*
b. Far away from family	1	0	0	0	
8. Place of residency					
a. Urban area	20	125	29	0	1.530
b. Rural area	1	21	4	0	
9. Education of father					
a. No formal education	0	1	2	0	15.299
b. Primary school	1	14	0	0	
c. Higher primary school	0	14	2	0	
d. High school	9	58	13	0	
e. PUC/diploma	1	12	4	0	
f. Degree/professional	9	37	11	0	
g. Post-graduation and above	1	10	1	0	
10. Education of mother					
a. No formal education	0	4	1	0	19.662
b. Primary school	0	11	1	0	
c. Higher primary school	0	13	1	0	
d. High school	8	45	8	0	
e. PUC/diploma	1	27	11	0	
f. Degree/professional	9	38	6	0	
g. Post-graduation and above	3	8	5	0	
11. Occupation of father					
a. Unemployed	0	0	3	0	17.74*

b. Daily wages	4	34	4	0	
c. Government employee	4	32	6	0	
d. Private	7	42	9	0	
e. Business	6	38	11	0	
12. Occupation of mother					
a. Homemaker	13	83	20	0	3.956
b. Daily wages	0	16	4	0	
c. Government	4	22	3	0	
d. Private	3	15	4	0	
e. Business	1	10	2	0	
13. Mode of internet access					
a. Mobile /Tablets/iPad	14	121	29	0	7.748
b. Personal computer	2	15	2	0	
c. Cyber	5	10	2	0	
P<0.05 *Significant					

Table 2: Chi-square values showing the association between the impact due to IA among high school students and their selected demographic variables.

The study showed that there was a significant association between impact due to IA with some of their selected demographic variables, viz., gender, age, class, presently residing, and occupation of father of the high schools students and the null hypothesis (H_{03}) was rejected. Whereas no significant association was found in remaining demographic variables, viz., religion, types of family, number of siblings, place of residency, education of father, education of mother, occupation of mother and mode of internet access and the null hypothesis (H_{03}) was accepted.

Conclusion

This study presents the descriptive assessment of the level of IA among adolescents. A case study of English medium high schools in Mangalore was conducted. The tool consisted of a baseline proforma, a modified form of IAT and a structured questionnaire developed during this study. The study revealed that 70.5% were normal users, 23% had a mild addiction, 6% had a moderate addiction, and 0.5% had a severe addiction. The study also revealed that 73% have “Mild impact”, 16.5% have “Moderate impact”, 10.5% have “No impact” and none of them has “significant impact” due to IA. The study showed that there is a significant correlation between IA and its impact among adolescent.

We found that there was a significant association between IA among adolescents with some of their demographic variables, viz., age, class, number of siblings and occupation of father. Whereas no significant association was found with other demographic variables, viz., gender, religion, types of family, presently residing, place of residency, education of father, education of mother, occupation of mother and mode of internet access.

Similarly, we also found that there was a significant association between the impact of IA with some of their demographic variables, viz., gender, age, class, presently residing, and occupation of father. Whereas no significant association was found in other demographic variables, viz., religion, types of family, number of siblings, place of residency, education of father, education of mother, occupation of mother and mode of internet access.

The findings of the study have implications in the field of nursing education, nursing practice, nursing administration and nursing research. Nurses get the unique opportunity to shape and develop healthy cognitions and positive self-regard among the adolescents. Immediate actions are to be taken to have a long-lasting impact on adolescents. This study recommends the need for the child health professional to function more effectively among the adolescents in order to mould them into productive, fruitful citizens for the country. This study serves as a valuable reference material and pathway for future investigation. The findings of the study would help to expand the scientific body of professional knowledge upon which further researchers can be conducted.

Acknowledgement

We would like to thank Mr. Rabi Shankar Talchabhadel for his constructive inputs for improving the manuscript.

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