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Understanding Internet Gaming Disorder through the lens of Proactive Coping and Socio-Emotional Well-being among Medical Students

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ABSTRACT

Background: Internet usage has increased drastically during the covid-19 pandemic, making the youth most vulnerable to Internet addiction. The possibilities of internet addiction followed by high internet usage, is undoubtedly high.

Objective: To explore the social-emotional well-being and proactive coping of medical students with IGD.

Methods: This study followed correlational survey research. Through snowball sampling method thirty male medical students were screened for IGD with the help of **IGDS9-SF** test. A comparative group of healthy medical students screened as non-IGD were also drawn from Delhi medical colleges. Psychological Well Being Scale and Proactive Coping Scale was used to assess socioemotional well-being and proactive coping respectively. Descriptive statistics (mean & SD), inferential statistics (t-test, Pearson correlation & regression analysis) was used to conduct the comparative study.

Results: The findings suggest that socio-emotional well-being and that in all its dimensions (satisfaction, efficiency, sociability, mental health and interpersonal relations) and proactive coping of medical students with IGD are significantly low compared to their healthy comparative Non-IGD group. Data showed a significantly positive correlation between proactive coping and socio-emotional well-being and that in all its dimensions. At linear regression socio-emotional well-being and that in all its dimensions were predictive of proactive coping($p<0.001$).

Conclusion: Socio-emotional well-being and proactive coping of medical students with IGD is significantly low and they are significantly strongly positive correlated and socio-emotional well-being were predictive of proactive coping and needs immediate/timely intervention for their better well-being.

Key Words: *Internet gaming disorder, socio-emotional well-being, medical students*

INTRODUCTION

Internet is a new technological and advanced tool that makes life easy and has come an important part of life and its stoner population is adding day by day. (Isman and Dabai, 2004; Yapici and Akbayin,). Internet comes out as a source of the platform which delivers some practical tools like entertainment, shopping, social sharing operations through which assessing of knowledge comes lightly and briskly (Young,1998). It also has some physical and cerebral damages like frazzle (Akın and Iskender, 2011; Griffiths, 1998), hostility, depression (Yean, Ko, Yen et al., 2007), and loneliness (Morahan-Martin and Schumacher, 2003). It also affected academic performance (Aboujaoude, 2010; Kubey, Lavin, and Barrows, 2001), has some educational damages like wasting of time (Griffiths, 2000), and communication problems with peers (Grosstalentt al002; Morahan-Martin and Schumacher, 2000).

In recent times internet gaming is coming to rest exertion and due to its further druggies, its growth in the request is high worldwide generating an estimated profit of 12 billion USD in China only in 2013 (Kuss, 2013). However, internet gaming has the implicit to evolve into a form of dependence which is an issue that has been studied predominately in Asia (Bass,

2015; Kuss, 2013; Poddar, Sayeed, & Mitra, 2015; Spekman et al., & Griffiths, 2013). In numerous countries like China, Korea, and Taiwan, internet gaming complaint (IGD) is considered a serious public health concern (Young, 2009).

Internet gaming disorder (IGD) is defined as an inordinate and prolonged Internet gaming pattern that causes cognitive and behavioral problems and is generally conceptualized as a behavioral dependence that includes core factors of addicting actions and rogressive loss of control over gaming, forbearance, and pullout symptoms. IGD shares core clinical features with gambling complaints as a behavioral dependence cluster. The cognitive-behavioral model of IGD suggests that individualities who suffer from psychosocial problems are more likely to develop IGD.IGD is associated with stress, aggressiveness, reduced work or academic achievement, and reduced well- being.

Prospective longitudinal exploration has found that gaming can lead to life difficulties, with cause for concern **(Gentile et al., 2011).** Students could soon fail out of college, struggle to obtain a basic job, and experience significant difficulties making friends. Living in campus, with unrestricted internet access, students risk spending significant time for gaming to the detriment of their academics, social connectedness, and personal health. Online gaming also drains productivity in the workforce with companies responding by actively blocking gaming sites **(Kyle A. Fausta & Judith J. Prochaskab ,2017).**

Internet gaming disorder (IGD) has been described as a preoccupation with online/offline gaming characterized by unable to control gaming actions that take priority over other life interests and daily activities despite adding negative consequences to the individual's psychosocial functioning for at least 12 months. According to the DSM-5, the clinical diagnosis of Internet Gaming Disorder requires the endorsement of at least five (or more) of the following nine criteria:

1) preoccupation with online/offline gaming

2) experience unpleasant symptoms when gaming is taken away

3) need to spend increasing amounts of time engaged in gaming activities

4) unsuccessful attempts to control participation in gaming behaviour

5) loss of interest in previous activities and entertainment as a result of and with the exception of games

6) continued excessive usage of games despite knowledge of psychosocial problems

7) deceiving family members, therapists, or others regarding the number of gaming hours

8) use of gaming activity to escape or relieve the negative moods

9) risking or losing a significant relationship, job or edition or career opportunities because of participation in gaming activity.

In addition to its negative influences on their social functions, individuals with Internet Gaming Disorder also displayed the alternation of brain function.

The term social-emotional well-being is used currently in the literature to relate to a wide range of issues including mental, emotional, social, physical, economic, cultural, and spiritual health, and accordingly, it has been defined in various ways. It is agreed that a model of psychological well-being should include and reflect the interconnectedness of the various aspects of overall well-being (Linley et al., 2009).

Social and emotional well-being was named as the precedence area due to the emphasis on mental well-being rather than on mental ill-health or pathology (Vic, 2008). This emphasis is consistent with the definition of mental health by world health organization (WHO, 2010). Mental health is a state of well-being in which an individual realizes his or her activities, can cope with the normal stresses of life, can work productively, and is able to contribute to his or her community. In this positive sense, mental health is the foundation for individual wellbeing and the effective functioning of a community (WHO, 2010). Broadly, social and emotional well-being refers to the way a person thinks and feels about themselves and others. It includes being able to adapt and deal with daily challenges (resilience and coping skills) while leading a fulfilling life. Hence there is an emphasis on the behavioral and emotional strengths of children, as to how they respond to adversity.

The Proactive Coping Theory (Schwarzer, 1999; Schwarzer & Taubert, 2002) goes beyond the understanding of coping as a reactive compensation in stressful situations. The approach views the individual as an intrinsically motivated and future-oriented actor capable of preventing stress and, when stress occurs, achieving growth due to it (Schwarzer & Taubert, 2002). Proactive coping is displayed through active behavior aimed at building resources to support goal achievement (Greenglass, Schwarzer, Jakubiec, Fiksenbaum, & Taubert, 1999; Schwarzer & Taubert, 2002) and involves goal setting and attainment, preventive coping, (adaptive) reaction delay, seeking social and instrumental support, reflective coping, as well as strategic planning. Studies on proactive coping may have valuable a practical impact as it can be exercised within professional intervention (Bode, de Ridder, Kuijer, & Bensing, 2007). Proactive coping may be a protective factor in the development of IGD. Previous results from clinical studies found associations between proactive coping and several psychological disorders. Proactive coping was reported to be negatively associated with symptoms of post-traumatic stress disorder among female college students (Vernon, Dillon, & Steiner, 2009). In individuals with a history of severe mental illnesses, a higher number of proactive coping strategies is associated with better social functioning (Yanos, 2001) and mediates the relationship between better role functioning and social support (Davis & Brekke, 2014). Well-developed proactive coping abilities decrease the risk of developing IGD through the involvement of strong goal attainment, active prevention of stressors, and

facilitation of adaptive reactions to stress. Thus, the Proactive Coping Theory presents a possibly vital approach to preventing and treating IGD.

Objectives of the Study-

1. To compare the individuals with internet gaming disorder and non-internet gaming disorder on proactive coping, socio-emotional well-being among medical students.
2. To study the association between internet gaming disorder, proactive coping, socioemotional well-being.
3. To study the effect of proactive coping on socioemotional well-being among medical students.

Hypotheses of the Study

- H 1 (a) - There would be significant difference in proactive coping in medical students with Internet Gaming Disorder and without Internet Gaming Disorder.
- H 1 (b) - There would be significant difference in socioemotional well-being in medical students with Internet Gaming Disorder and without Internet Gaming Disorder.
- H 2 - There would be a significant positive association between proactive coping and socio-emotional well-being among medical students.
- H 3- Proactive coping would significantly predict socioemotional well-being among medical students.

METHODS

Research design

The present study employed a descriptive correlational design. This design is appropriate for describing the current situation and for identifying naturally occurring groups of internet gaming disorder and non-internet gaming disorder based on shared patterns in Socio-emotional Well-being, Proactive Coping .This approach provides insights that can inform educational practices and interventions without implying causal relationships.

Participants, Data Collection, and Procedure

The study included 60 medical students (N=60) from the medical colleges and university in Delhi UT (INDIA). The colleges and universities of Delhi who are running medical courses especially MBBS programme were approached and prior approval from the concerned authorities were taken. The participants were approached and asked to be participated in the google form survey who have engaged in internet gaming in both online and offline.

Snowball sampling technique was used to collect data from the sample. To be eligible for the study, the students had to be a part of the MBBS programme of I & II year, aged 18 – 22 years, able to read and understand the questionnaire which was available in the English language and must not have any chronic clinical history.

The informed consent was obtained in written form from all the participants. Ethical guidelines given by APA (2010) would be followed in the data collection phase.

Measures

1. Socio-demographic data sheet- Self-prepared for collecting relevant demographic and clinical information like age, gender, residential area, family annual income, hostler, gaming hours, sleeping hours, chronic illness, gadgets used by students, interference in social and school life.
2. The Internet Gaming Disorder Scale–Short-Form (IGDS9-SF): The nine-item Internet Gaming Disorder Scale–Short-Form (IGDS9-SF) scale is a self-reported screening measure based on the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) criteria. It has been used to assess the symptoms and prevalence of Internet Gaming Disorder (IGD) in the general population. IGDS9-SF demonstrated very good psychometric properties in different languages (Monacis et al., 2016, Pontes and Griffiths, 2015, Pontes et al., 2016, Pontes et al., 2017) and specifically Persian (Wu et al., 2017), the present study used version with a Cronbach's α of 0.90.
3. Psychological well-being scale (PWBS,2012): Psychological Well-Being developed by Sisodia and Choudhary (2012) will be used to measure socio-emotional well-being among the participants. The scale has 50 items that measure on five dimensions (subscales) of well-being i.e.Life satisfaction, Efficiency, Sociability, Mental health, and Interpersonal relations. Each subscale has 10 items, each item with a five-point response category ranging from strongly agree to strongly disagree. Thus, the scale provides scores on five dimensions/subscales, in addition to a score on the total psychological well-being score, the internal consistency reliability coefficient is reported to be 0.90 & the test-retest reliability is reported to be 0.87 for the normative sample.
4. Proactive Coping Scale: Proactive coping scale includes 14 statements that deal with reactions you may have to various situations. Respondents are presented with four alternatives: "not at all true", "barely true", "somewhat true", and "completely true", The proactive inventory was constructed to assess the different dimensions of a proactive approach to coping.

RESULTS

Table 1 Descriptive statistics (Mean & SD) and t-value for the Proactive coping of medical students with IGD and without IGD (N= 60)

	Sample Type	n	M	SD	t-value
Proactive Coping	IGD	30	26.77	4.133	-11.011**
	Non-IGD	30	38.33	4.003	

P<0.05*, P<0.01**

Descriptive analysis and independent t-test with proactive coping and IGD was conducted to know the mean statistics and to test differences **(see Table 1**). The mean of proactive coping with IGD was 26.77 (SD = 4.133) and when compared to their Non-IGD comparative group was 38.77 (SD =4.003) and medical students without IGD reported higher average of proactive coping than medical students with IGD (t = -11.011, p < 0.01)

Table 2 Descriptive statistics (Mean & SD) and t-value for the dimensions of Socio-emotional well-being of medical students with IGD and without IGD (N= 60)

Socio-emotional well-being Dimensions	Sample Type	n	Mean	SD	t- value	sig.value
Satisfaction	IGD	30	24.17	5.421	-7.505	0.01**
	NON-IGD	30	34.17	5.102		
Efficiency	IGD	30	23.90	3.680	-9.285	0.01**
	NON-IGD	30	34.27	4.884		
Sociability	IGD	30	24.23	4.703	-8.009	0.01**
	NON-IGD	30	34.77	5.456		
Mental Health	IGD	30	24.60	4.665	-6.779	0.01**
	NON-IGD	30	34.43	6.431		

Interpersonal Relations	IGD	30	24.97	3.672	-12.005	0.01**
	NON-IGD	30	37.67	4.482		
Total score	IGD	30	121.87	17.510	-11.805	0.01**
	NON-IGD	30	175.50	17.681		

Descriptive analysis and independent t-test with socio-emotional well-being and IGD was conducted to know the mean statistics and to test differences **(see Table 2**). The mean of socio-emotional well-being with IGD on dimensions namely satisfaction (24.17 ± 5.421), efficiency (23.90 ± 3.680), sociability (24.23 ± 4.703), mental health (24.60 ± 4.665), interpersonal relations (24.97 ± 3.672) and overall socio-emotional well-being (121.87 ± 17.510) and when compared to their Non-IGD comparative group on dimensions namely satisfaction (34.17 ± 5.102), efficiency (34.27 ± 4.884), sociability (34.77 ± 5.456), mental health (34.43 ± 6.431), interpersonal relations (37.67 ± 4.482) and overall socio-emotional well-being (175.50 ± 17.681) and medical students without IGD reported higher average of socio-emotional well-being than medical students with IGD ($t = -11.805$, $p < 0.01$).

Table 3 Correlation among Proactive coping and Socio-emotional well-being in medical students (N= 60)

Socio-emotional well-being Dimensions	Proactive coping
Satisfaction	.753**
Efficiency	.766**
Sociability	.698**
Mental Health	.638**
Interpersonal Relations	.750**
SEWB Total score	.816**

(p<0.05*, p <0.01)**

Pearson product moment correlation with socio-emotional well-being and Proactive coping and was conducted to know the correlation **(see Table 3**). The correlation between Proactive coping and socio-emotional well-being in all its dimensions

namely satisfaction (r = 0.753), efficiency (r = 0.766), sociability (r = 0.618), mental health (r = 0.638), interpersonal relations (r = 0.750) and overall socio-emotional well-being (r =0.816) were significantly positively correlated with proactive coping($p<0.01$). The socio-emotional well-being in all its dimensions and overall were strongly correlated with proactive coping ($p<0.01$).

Table 4 – Regression analysis using Proactive coping as predictor and socio-emotional well-being as criterion.

Criterion	**Predictor**				
Socio-emotional well-being Dimensions	**Proactive coping**				
	B	**β**	**R^2**	**F**	**Sig.**
Satisfaction	0.78	0.75	0.57	76.07	**<0.001****
Efficiency	0.73	0.77	0.59	82.28	**<0.001****
Sociability	0.72	0.69	0.49	55.13	**<0.001****
Mental Health	0.67	0.64	0.41	39.84	**<0.001****
Interpersonal Relations	0.80	0.75	0.56	74.57	**<0.001****
SEWB Total score	3.70	0.82	0.67	115.54	**<0.001****

Simple linear regression with socio-emotional well-being as criterion and Proactive coping as predictor was conducted to know the relationship **(see Table 4**).

The R^2 value (the "R square" column) indicated how much of the total variation of the dependent variable socio-emotional well-being can be explained by the independent variable, Proactive coping. In this study **57%** of satisfaction, **59%** of efficiency, **49%** of sociability**, 39.84%** of mental health**, 74.57%** of interpersonal relations and **67%** of overall socio-emotional well-being was explained by Proactive coping. The obtained F value for the dimensions namely satisfaction (76.07), efficiency (82.28), sociability (55.13)**,** mental health (39.84)**,** interpersonal relations (74.57) and overall socio-emotional well-being (115.54) at $p<0.001$. (i.e., the regression model is the good fit of the data). The standardized coefficient, β in all its dimensions and overall were significant for proactive coping, $p<0.001$. So, proactive coping as predictor, statistically significantly explains socio-emotional well-being as a criterion.

DISCUSSION

The present study examined the differences and associations between socio-emotional well-being and proactive coping of medical students with internet gaming disorder. As shown in our descriptive results reported proactive coping of medical students with internet gaming disorder is low as comparative to their healthy counterparts. This results are in line with the previous studies suggesting that proactive coping may be a protective factor in the development of IGD **(Vernon, Dillon, & Steiner, 2009).** This implies that students with IGD have poor stress-management strategies that reflects that they are not good in making efforts to build up resources that facilitates promotion towards challenging and personal growth. They did not felt motivated to meet challenges, and they don't commit themselves to their own high standards. They are unable to see

demands and opportunities in the distant future and lacks of initiating a constructive path of action toward meeting them. Stress is interpreted as distress – unpleasant emotion, feelings, thought, condition or behaviour. It can affect the way you think, feel or act and can make it hard to cope with the daily life activities, events and situations. These results are in line with the previous studies suggesting that in the lockdown period following COVID-19 pandemic, the increase in gaming behaviour was associated with examination-related stress and the belief that gaming helps combat stress. These observations highlight the need to focus on the coping style of the students to ascertain the likelihood of them engaging in gaming behaviour as a coping mechanism against stress. **(Balhara YP et al.,2020)**

We also found significant differences in socio-emotional well-being and that in all its dimensions (satisfaction, efficiency, sociability, mental health and interpersonal relations) of medical students with IGD as comparative to their healthy counterparts. This implies that students with IGD have low socio-emotional well-being that reflects that their life satisfaction, efficiency, sociability, mental health and interpersonal relations all are affected with the IGD. The findings suggest that low level in socio-emotional well-being affects the students in the following manner-

(a) Life satisfaction states that their gratification of desire was not fulfilled and they used gaming behavior as the state of being satisfied and they enjoyed this behavior

(b) Efficiency states that their performance in the academic as well in other type of work was affected and they were unable to consume the resources (money, time) in an efficient way.

(c) Sociability states that gaming behavior decreased the quality or the state of being sociable.

(d) Mental Health states that overall psychological and emotional condition affected and they felt difficulty in cope with everyday events, think and in maintaining good relationships with others. The findings are also congruent to the study of **(Hyun et al. ,2015)** which suggests that 263 patients with IGD and153 healthy comparison subjects, employed a hierarchical logistic regression analysis that included individual factors (sex and age), cognitive factors (IQ and perseverative crimes), psychopathological conditions (ADHD, depression, anxiety, and impulsivity), and social factors (family environment, social anxiety, and self-esteem). This study reported that all four factors were significantly associated with IGD, with psychopathological conditions emerging as the strongest risk factors.

(e) Interpersonal Relations states that they felt difficulty in association based on love and liking or some other type of social commitment.

In accordance of the present findings **Davis, 2001; King &Delfabbro, 2014, 2016; Turkle, 2017** also reported that models of IGD recognize that individuals who feel less certain in their own capacities and their place in the real world will be more at threat of using the Internet and playing online games to compensate.

According to the earlier studies, the individuals with a history of severe mental illnesses, a higher number of proactive coping strategies is associated with better social functioning **(Yanos, 2001)** and mediates the relation between social support and better role functioning **(Davis & Brekke, 2014).** Supporting the literature, this study revealed that socio-emotional well-being significantly positive associated with proactive coping. The study suggests that those who ae good in the stress-management strategies they were satisfied with their life means and their gratification were fulfilled, they will use the resources available to them in an efficient way. They will be more socially active due to which their cognitive and emotional conditions will be well developed and they will be able to maintain their interpersonal relations in a good manner and they will be more socially committed. These results are in the line with the previous studies suggesting that proactive coping is displayed through active behavior aimed at building resources to support goal achievement **(Greenglass et al., 1999; Schwarzer & Taubert, 2002)**

As we hypothesized, proactive coping as a predictor statistically predict socio-emotional well-being and that in all its dimensions (satisfaction, efficiency, sociability, mental health and interpersonal relations). Supporting the existing literature on the proactive coping strategies referred as the active management of the environment, the accumulation of resources and the actualization of human potentials are confirmed as positive predictors of high level of social well-being and of many personal projects focused on family, culture, leisure time, civic and social participation **(Zambianchi, Manuela ,2014).** Positive correlation indicates that increase in stress-management strategies leads to increase in socio-emotional well-being. The findings reported that for every unit increase in the proactive coping, the dependent variable (life satisfaction, efficiency, sociability, mental health and interpersonal relations) increases by (0.78, 0.73, 0.72, 0.67, 0.80) unit respectively and overall socio-emotional well-being by 3.70 unit. Well-developed proactive coping abilities decrease the risk of developing IGD through involvement of strong goal attainment, active prevention of stressors, and facilitation of adaptive reactions to stress. The present findings are also congruent to the study of **Daniel L king & Paul H. Delfabro,2016** which reports that the proactive coping theory presents a possibly vital approach in preventing and treating IGD. People try to cope with emotional distress by playing online games, but the excessive and prolonged online game usage may move them down from real life relationships, possibly leading to serious consequences for their mental health.

IMPLICATIONS OF THE STUDY

The study contributes to the growing body of literature on Internet Gaming Disorder by integrating it with proactive coping

theory and socio-emotional well-being frameworks.It supports the conceptualization of IGD not merely as a behavioral addiction but as a maladaptive coping mechanism, particularly in high-stress populations such as medical students.

The findings reinforce the theoretical proposition that proactive coping functions as a protective factor, aligning with stress-coping models proposed by Ralf Schwarzer and colleagues.The strong predictive relationship between proactive coping and socio-emotional well-being validates the idea that resource-building strategies (future-oriented coping) are central to psychological adjustment.

LIMITATIONS OF THE STUDY

The present results could be generalized limitedly to all the medical students of I & II year of MBBS programme because of the small sample size and snowball sampling method. In addition, this study only focused on the medical students pursuing MBBS programme in I & II year in colleges and universities of Delhi. However, there is still lack of the knowledge about medical students of different colleges & universities of different districts & states of India.

Future Research Directions

The current study is limited to medical students; future research should include:

1. Students from other disciplines
2. Adolescents and working professionals

Cross-cultural studies can examine whether findings generalize across different socio-cultural contexts.

Future research should focus on developing and testing.Intervention programs targeting proactive coping enhancement.Preventive frameworks for reducing IGD risk in high-stress populations. Studies can also examine the effectiveness of digital detox programs and behavioral interventions.

Thus, the couple level of the future research is in need to capture the students of several other fields of science like engineering, nursing, and other paramedical courses too and streams like commerce & arts.

CONCLUSION

The present study suggests that it is important for parents, teachers, researchers and social workers to pay more attention to the importance of socio-emotional well-being of students especially who are suffering from IGD. It also shows need to pay attention on proactive coping and its different ways to improve stress-management strategies because the findings of this study suggests that proactive coping is positively associated with socio-emotional well-being. The present findings are also congruent to the study of **Vernon, Dillon, & Steiner, 2009** which reports that proactive coping may be a protective factor in the development of IGD.

In addition, the socio-emotional well-being and all in its dimensions (life satisfaction, efficiency, sociability, mental health and interpersonal relations) were predictive of proactive coping. Hence this study successfully able to explore the proactive coping and socio-emotional well-being of medical students with internet gaming disorder and making aware of these also could change their view of internet gaming.

Conflict of interest – There is no conflict of interest.

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