



## Association between overuse of Social Media with Mental and Physical Health-is sitting the New Smoking

ThanaLakshme S P<sup>1</sup>, Karthik Ganesh Mohanraj\*<sup>1</sup>, Vishnu Priya V<sup>2</sup>

<sup>1</sup>Department of Anatomy, Saveetha Dental College and Hospitals, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai – 600077, Tamil Nadu, India

<sup>2</sup>Department of Biochemistry, Saveetha Dental College and Hospitals, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai – 600077, Tamil Nadu, India

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### ABSTRACT

Social media being endemic in prevailing society, has a larger positive impact on humans and society. Also, led to greater technological development and made people closer from different walks of life and various parts of the world. Social media even influences an individual mentally by keeping them entertained and enhancing their creativity and explorations. But on the other hand negative impact had been the greatest talk for time. The negative impact can be experienced on overuse or addiction to it. On being overused social media imparts stress and depression which was proved by the result of our survey study. This study comprises 100 participants of the Chennai population. A self-structured questionnaire was distributed among the targeted population and data were collected. The collected data were analyzed by SPSS software and presented as pie charts and bar charts. The result of the observed population concluded that long exposure to social media or sitting on social media apps has the negative impact indistinguishable from the effect caused due to smoking.



### \*Corresponding Author

Name: Karthik Ganesh Mohanraj  
Phone: +91 9940545168  
Email: karthikm.sdc@saveetha.com

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### INTRODUCTION

Social media are interactive computer mediated technologies that enhance creation and sharing of information, thoughts and ideas and other forms of expressions via virtual communities and networks (Kietzmann *et al.*, 2011). The idea of social media was basically to bring people together which

has been seen as too broad and happened fundamentally through telegraph and telephone (Schejter and Tirosh, 2015). Since, humans are social creatures who require companionship to thrive and so they remain socially connected (Kaplan and Haenlein, 2010). In this developing era, education became digital which reduced the need for trained teachers and textbooks. This makes the students engaged more with gadgets (Thejeswar and Thenmozhi, 2015). This dependency of students on online portals makes them get familiar with articles Menon and Thenmozhi (2016); Pratha and Thenmozhi (2016) and develops stronger ideas about the concept. Hence being dependent on online portals and would enhance knowledge in particular fields which is a greater positive impact on students (Choudhari and Thenmozhi, 2016; Kannan and Thenmozhi, 2016). This would even ease stress for them and add ages to life (Hafeez and Thenmozhi, 2016; Subashri and Thenmozhi, 2016). But on the other hand, communicating via various

media to the entire world would be unable to replace the real world human connection which could be achieved through our speech (Appel *et al.*, 2016; Seppan *et al.*, 2018). This should be believed and realized by individuals and the time spent online should be reduced. The overuse definitely has its impact on physical and mental health causing anxiety and depression (der Zee *et al.*, 2000). This may become one of the major causes for hypertension (Krishna and Babu, 2016; Johnson *et al.*, 2020). Such addiction can also lead to certain serious conditions like brain damage which may be due to radiations emerging from gadgets (Sriram *et al.*, 2015; Nandhini *et al.*, 2018).

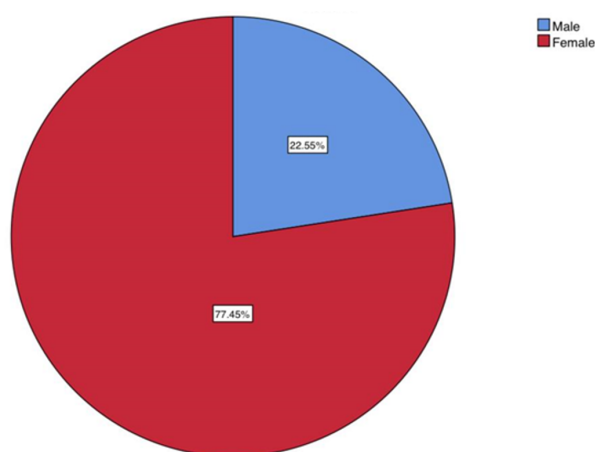
The first and foremost reason behind such addiction and dependency is that it keeps connected with family and friends all over the world (Poon and Sudano, 2020), keeps them entertained and thus to relax and unwind. It also empowers individuals to take certain responsibilities and to spread thoughts and awareness. This can benefit the society resulting in social changes and educating the people (Whillans *et al.*, 2017; Keerthana and Thenmozhi, 2016). Being so addictive, relays on a negative side which could destroy one's mental peace and make them unhealthy (Jordan *et al.*, 2011). Being more reliable on gadgets over a long time damages overall systemic health and also more prone to social media and thus imparts sadness and other mental illness. Moreover, this addiction has a large impact on adolescence physically (Stevenson *et al.*, 2015).

The previous studies with a similar population by Aaron Bryant *et al.*, establishes that social media is not generally harmful only a prolonged exposure and addiction reflects effects on mental health. Another study states that a larger impact had always been on mental health than physical health. But this particular study limits that only twitter was considered for the study (Robinson *et al.*, 2019; Sekar *et al.*, 2019). Similar study done in FB established that overuse has closely affected physical health and its limits with the fact that individuals who were not the user of FB (Dibb, 2019; Mathews and Babu, 2015).

Long time exposure affects physical health and destroys mental well being of an individual. Thus, awareness should be created on addictive usage and thus only positive aspects of social media should be inhaled. The present study considers users of all social media which were lacking in prior studies. This study would make an impact on the population that addiction to social media has its impact equal to an addictive smoker. The aim of study is to assess the impact of overuse of social media on mental and physical health.

## MATERIALS AND METHODS

This study is an online study setting involving the Chennai population. This study was approved by the Institutional Research Board which had conducted many successful studies. The earlier studies include the similar study carried out by PreethiSrinivaset.al., involving 24 graduate students as a population (Faiola and Srinivas, 2014). Another study by (Mabey *et al.*, 2019) having 215 college students who were enrolled on a physical therapist course as participants (Mabey *et al.*, 2019). Based on these previous studies, the present study comprised 100 participants as sample size with simple random sampling as the sampling method. Randomization including all variables was the measure taken to minimize bias. The internal validity includes pre-tested questionnaires and the external validity involves the homogenization and replication of experiment and cross verification with existing studies. Age, gender, height, weight were considered as the independent variables. Social media users, frequency of use, occupation, were regarded as the dependent variables. The statistical software used was SPSS by IBM version 23.0. The statistical method used was descriptive statistics. Chi square test was used as statistical analysis for association. The obtained data were analyzed and represented as pie charts and bar charts.



**Figure 1: The pie chart represents the percentage distribution of male and female participants**

## RESULTS AND DISCUSSION

From the observed study (Figure 1), In which 22.5% (blue colour) were male and 77.45% (red colour) were female.

72.5% of participants belong to the age group of 18-22 years, 20.59% of them belong to 22-25 years and

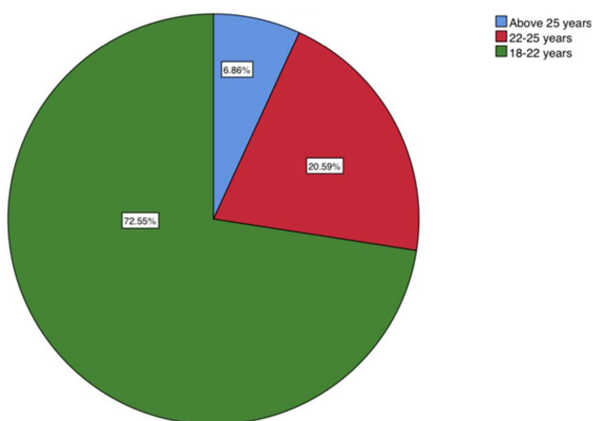


Figure 2: The pie chart represents the percentage distribution of age of participants

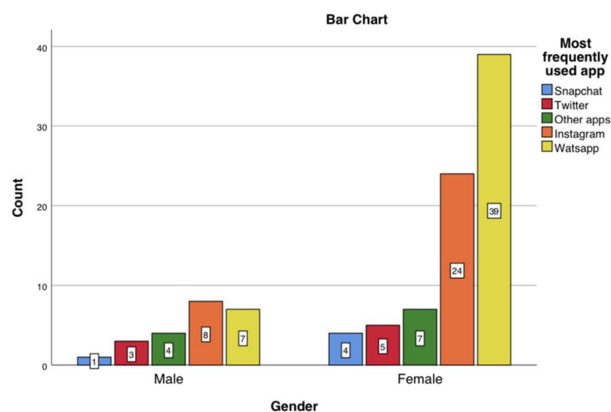


Figure 5: Bar chart showing chi-square analysis of association between gender and the most frequently used app among the participants

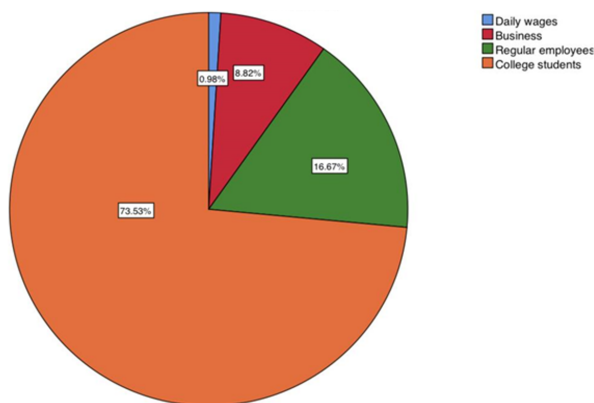


Figure 3: The pie chart represents the percentage distribution of occupational backgrounds of the participants

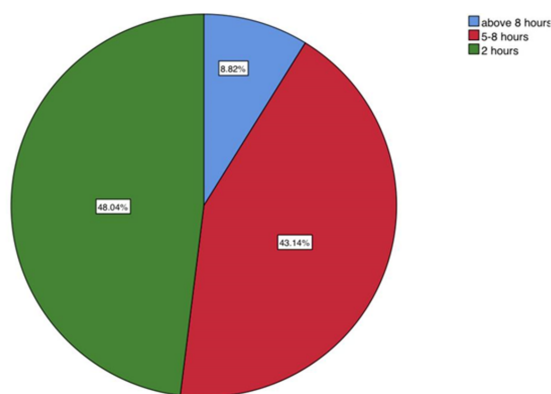


Figure 6: The pie chart represents the percentage distribution of the time spent by participants online in a day

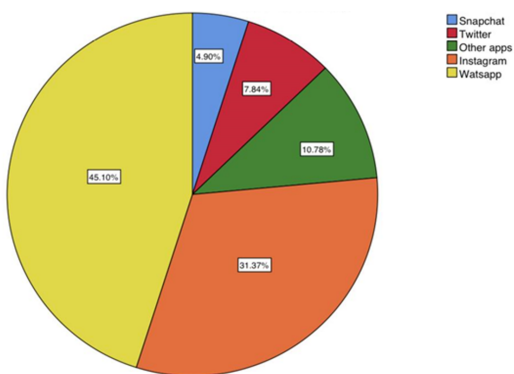


Figure 4: The pie chart represents the percentage distribution of the most frequently used apps among the participants

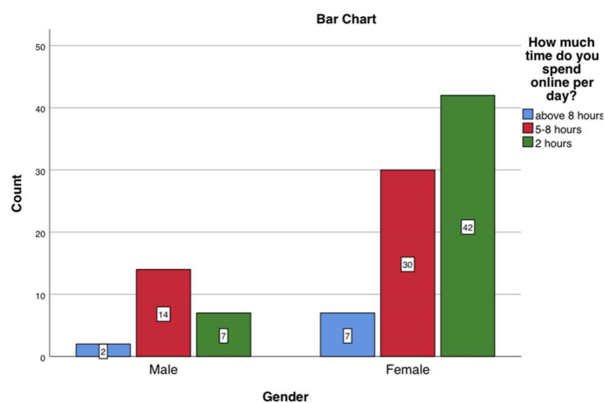


Figure 7: Bar chart showing chi-square analysis of association between gender and time spent online per day by the participants

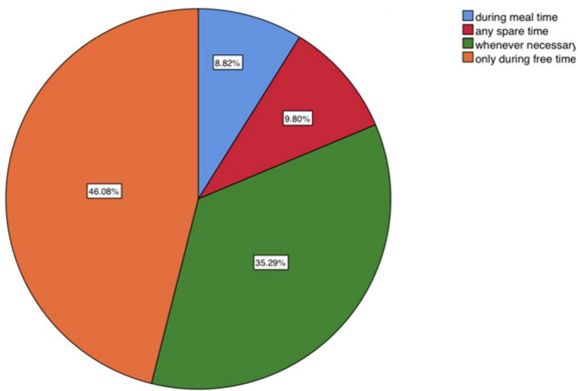


Figure 8: Pie chart represents the time at which participants access their favourite apps

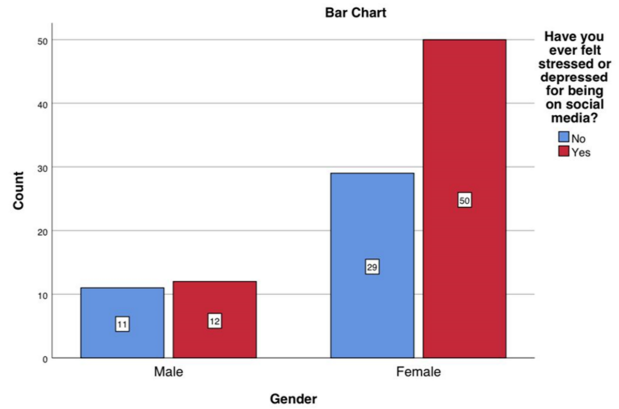


Figure 11: Bar chart showing chi-square analysis of association between gender and depression

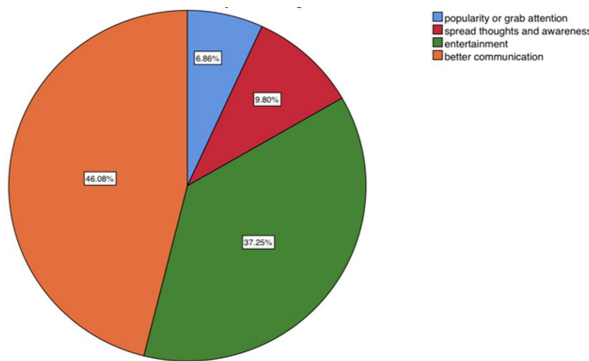


Figure 9: Pie chart represents the reason for being active in social media

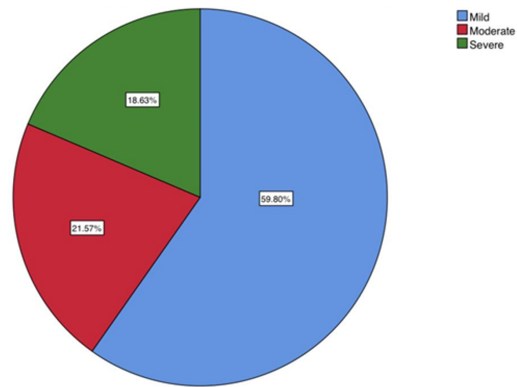


Figure 12: The pie chart represents the percentage distribution of participants

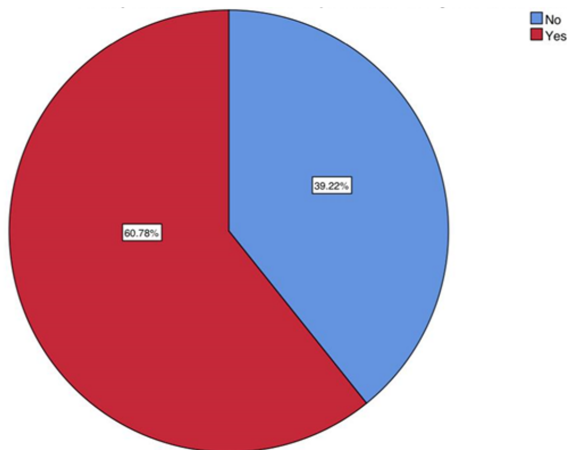


Figure 10: The pie chart represents the percentage distribution of respondents who felt stressed or depressed for being on social media

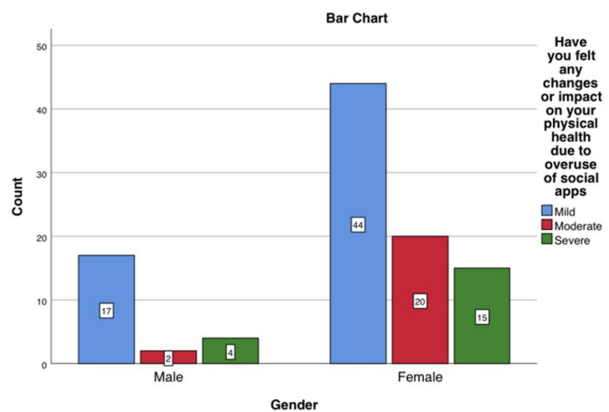
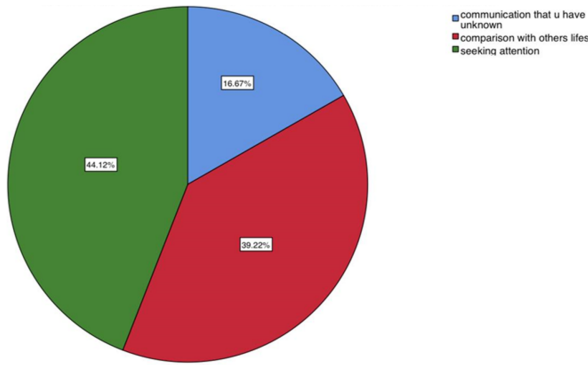
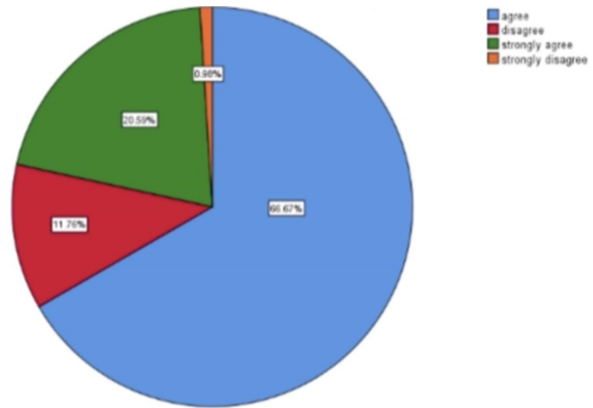


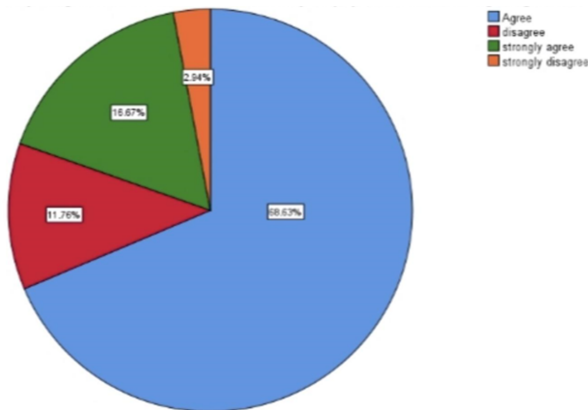
Figure 13: Bar chart showing chi square analysis of association between gender and impact on physical health of the participants due to over use of social media



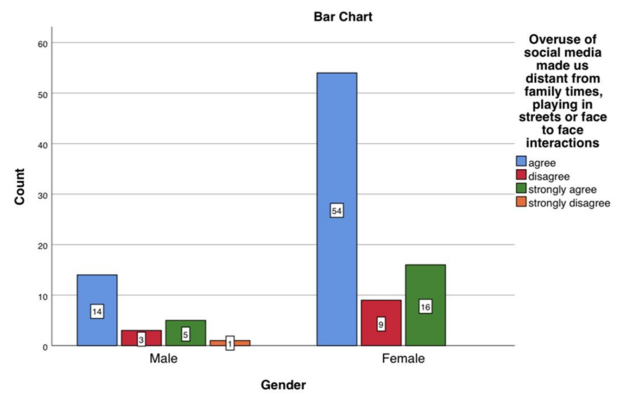
**Figure 14:** Pie chart shows the percentage distribution of reasons of participants for getting mentally disturbed due to overuse of social media



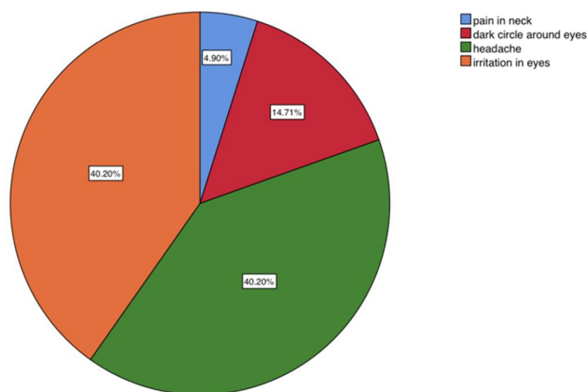
**Figure 17:** Pie chart shows the percentage distribution of response of participants that social media had distanced family time



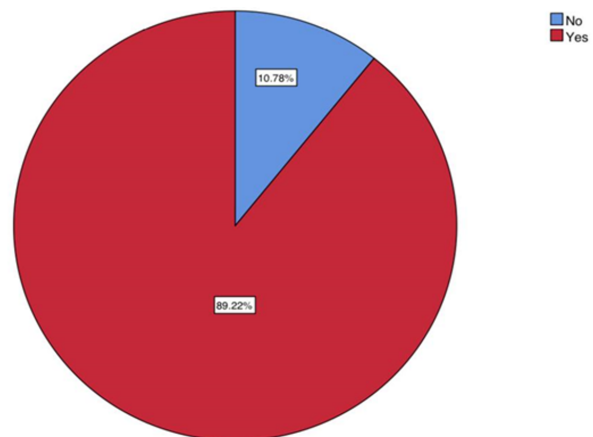
**Figure 15:** Pie chart shows the percentage distribution of participants that mental health and physical health are equally affected due to overuse



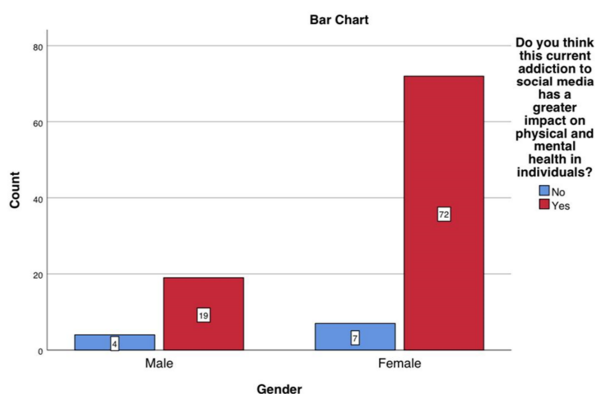
**Figure 18:** Bar chart showing chi-square analysis between gender and the changes in everyone's normal life due to overuse of social media



**Figure 16:** Pie chart shows percentage distribution of participants having physical complication due to overuse of social media



**Figure 19:** Pie chart shows the percentage of participants



**Figure 20: Bar chart showing chi-square analysis of association between gender and addiction to social media and its impact on health**

6.8% of respondents belong to the age group above 25 years (Figure 2). In which 6.86% (blue colour) were above 25 years of age, 20.59% (red colour) were 22-25 years of age and 72.55% (green colour) were 18-22 years of age.

Majority of the population of about 73.53% were college students, 16.67% of participants were regular employees and 8.8% were following business and 0.9% of respondents were daily wagers (Figure 3). In which 0.98% (blue) are daily wagers, 8.82% (red) were business, 16.67% (green) were regular employees and 73.53% (orange) were college students.

The participants were asked about the frequently used app, the result was found to be 45.1% of responses were WhatsApp, 31.37% were Instagram, 10.7% used other apps while 7.8% uses Twitter and 4.9% of population uses Snapchat (Figure 4). 4.90% (blue) were using Snapchat, 7.84% (red) using Twitter, 10.78% (green) using other apps, 31.37% (orange) using Instagram and 45.10% (yellow) using WhatsApp. Chi square analysis of association between gender and the most frequently used app among the participants showed  $p=0.4$  ( $p>0.05$ ) which was statistically not significant indicating that there was no association between gender and the frequently used App among the survey participants (Figure 5). Chi square test showing,  $p=0.4$  ( $p>0.05$ ) indicating statistically not significant. X axis represents gender; Y axis represents number of participants.

The duration of participants spent online was questioned for which 48.04% responded as 2 hours, 43.1% of the population responded as 5-8 hours whereas 8.8% were above 8 hours (Figure 6). In which 8.82% (blue colour) represents above 8 hours, 43.14% (red colour) represents 5-8 hours

and 48.04% (green colour) represents 2 hours.

Chi square analysis of association between gender and time spent online per day by the participants, showed  $p=0.1$  ( $p>0.05$ ) which was statistically not significant indicating there was no association between gender and time spent online per day by the participants (Figure 7). Chi square test showing,  $p=0.1$  ( $p>0.05$ ) indicating statistically not significant. X axis represents gender; Y axis represents number of participants.

From the survey data it was observed that 46.08% of the population reacted that they use social media apps only during free time, while 35.29% answered whenever necessary, 9.8% of participants used it during spare time and 8.82% responded as during meal time (Figure 8). In which 8.82% (blue colour) used during meal time, 9.80% (red colour) use in any spare time, 36.29% (green colour) use whenever necessary and 46.08% (orange colour) use only during freetime.

The reason for being active in social media was enquired and it is found that 46.08% of respondents answered that for better communication, 37.25% of the population used to get entertained while 9.8% of responses were to spread thoughts and awareness and 6.86% responses were to get popularity (Figure 9). 6.86% (blue colour) use to grab attention, 9.80% (red colour) use to spread thoughts and awareness, 37.25% (green colour) used for entertainment and 46.08% (orange colour) used for better communication.

The survey data showed that 60.78% felt stressed or depressed due to overuse of social media while 39.22% had not felt stressed or depressed on using social media (Figure 10). which is represented as 60.78% (red colour) and 39.22% (blue colour) represents those who didn't feel stressed or depressed. Chi square analysis of association between gender and depression or stress felt by the participants on overuse of social media showed  $p=0.33$  ( $p>0.05$ ) which was statistically not significant indicating that there was no association between gender and depression or stress felt by the participants on overuse of social media (Figure 11). Chi square test showing,  $p=0.33$  ( $p>0.05$ ) indicating statistically not significant. X axis - gender; Y axis - number of participants.

The data depicted that 59.80% of respondents answered that there would be a mild effect on physical health, 21.57% of the population answered moderate impact and 18.63% felt that severe impact on physical health (Figure 12). who had impact on their physical health due to overuse of social media in which 59.80% (blue colour) felt mild

impact, 21.57% (red colour) had moderate impact and 18.63% (green colour) had severe impact. Chi square analysis of association between gender and the impact on physical health of the participants due to overuse of social media showed  $p=0.1$  ( $p>0.05$ ) which was statistically not significant indicating that there was no association between gender and the impact on physical health of the participants due to overuse of social media (Figure 13). Chi-square test showed  $p=0.1$  ( $p>0.05$ ) indicating statistically not significant. X axis - gender; Y axis - number of participants.

The reason for being mentally disturbed was questioned to participants for which 44.12% answered that the thought of seeking attention, 39.22% were because of comparison with other lifestyles and 16.67% of responses were communication with the unknown (Figure 14). 16.67% (blue) to communication that are unknown, 39.22% (red) for comparing with other lives and 44.12% (green) for seeking attention. Among the survey participants 68.63% of the population agreed that overuse has an impact on both physical and mental health, 16.67% of participants strongly agreed while 11.8% disagreed and 2.94% strongly disagreed with the statement (Figure 15). 68.63% (blue) - agree, 16.67% (green) - strongly agree, 11.76% (red) - disagree and 2.94% (orange) - strongly disagree. It was observed that major impact on physical health responded by the participants were irritation in eyes which was about 40.2% and equally 40.2% was headache while 14.7% of the population have experienced dark circles around eyes whereas 4.90% had pain in neck (Figure 16). 4.90% (blue) suffer from neck pain, 14.71% (red) has dark circle around eyes, 40.20% (green) has headache and 40.20% (orange) has irritation of eyes.

The overuse of social media made us distanced from family time was agreed by 66.67% of the population while 20.59% strongly agreed, 11.76% of participants disagreed and 0.98% of population strongly disagreed with the fact (Figure 17). 60.67% (blue) agree, 11.76% (red) - disagree, 20.55% (green) - strongly agree and 0.98% (orange) - strongly disagree.

Chi square analysis of association between gender and the changes in everyone's normal life due to overuse of social media showed  $p=0.3$  ( $p>0.05$ ) which was statistically not significant indicating there was no association between gender and the changes in everyone's normal life due to overuse of social media (Figure 18). Chi square test showed,  $p=0.3$  ( $p>0.05$ ) indicated statistically not significant. X axis - gender; Y axis - number of participants.

From the survey data it was found that the addiction on social media has a greater impact on physical and mental health was accepted by 89.22% of the population while 10.78% of participants regretted it (Figure 19). who accepted that the current addiction to social media has greater impact on physical and mental health. 10.78% (blue colour) responded 'no' and 89.22% (red colour) responded 'yes'. Chi square analysis of association between gender and addiction to social media and its impact on health showed  $p=0.24$  ( $p>0.05$ ) which was statistically not significant indicating there was no association between gender and addiction to social media and its impact on health (Figure 20). Chi square test showing,  $p=0.24$  ( $p>0.05$ ) indicating statistically not significant. X axis represents gender; Y axis represents number of participants.

The supporting study by (Soyer, 2019), establishes that more usage was during leisure time and thus getting addicted which shows positive response and adds consensus and evidence to our study (Soyer, 2019).

In the study by (Smahel et al., 2015), most of the impact on physical health were eye problems, headache and sleeping problems in children which is close to our study (Smahel et al., 2015). Another study, by (Zheng et al., 2016), the major complaint and effect due to overuse was vision problems (Zheng et al., 2016). Also a study by (Sriram et al., 2015), establishes that overuse of gadgets and social media apps has greater impact on vision disorders (Samuel and Thenmozhi, 2015). This coincides with our study and adds consensus to our present study.

Yet another similar study by (Scott et al., 2017), states that mental health concerns are affected by reduced social interactions and overuse or extreme technological dependency (Scott et al., 2017). Thus shows a positive response and adds as evidence to our present study.

Hence, the prior studies adds to consensus and serves as evidence to our present survey study. The impact of overuse of social media on physical and mental health had been the topic of every time which would be utilized for further studies at larger populations to create awareness.

This study limits within less sample size, homogeneous population and inclusion of more criteria. This study could be further extended to a larger population and should create awareness on social media apps that are meant for necessary usage and not for overuse. Moreover, the usage of social media should neither be an addiction nor a dependency. The foremost awareness one should have is that addiction

will always have an impact on health issues.

## CONCLUSION

The present study concludes that the overuse of social media has a greater impact on physical and mental health. Due to the prevailing technological world and improved educational system it has been necessary to use social media but the frequency of usage is what matters. Thus, awareness should be created among people to be conscious of their physical and mental health.

## Conflict of Interest

The authors declare that they have no conflict of interest.

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The authors declare that they have no funding support for this study.

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