The Influence of Sharing Fake News, Self-regulation, Cyber Bullying on Social Media Fatigue during COVID-19 Depression as Mediator Role

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ABSTRACT

Intent of this is to explore the empirical impact of fake news sharing, self-regulation and cyberbullying while depression been playing a role of the mediator on the fatigue of social media in the pandemic, COVID- 19. In order to bridge the gap in the current study, a conceptual framework has been utilized to find out the impact of fatigue of social media on depression. SMART PLS software has been used in this study to investigate the influence of the fake news, self-regulation and cyberbullying on the social media with variable depression as a mediator. Model has been tested on the sample size of 132. Also, research design of the current study is cross sectional. the foundation of this study is based on the (CLT) cognitive load theory which gave insight on effects of social media on the minds of the individuals. A report claimed that Facebook has broke its own records of usage during the pandemic. The existing study has also explored every possible mechanism of fake news countering that is being created by the Facebook pages of the real and actual newscast. However, it also uses the advertisement for disseminating the real, actual or correct information. This research will also be developing the great and more understanding among the effect of SMA, self-regulation, and cyberbullying with the impact of depression as a mediator on the fatigue of social media in pandemic times. For Karachi respondents, a close ended questionnaire has been designed in order to test the research models. Respondents were social media's adolescent users in Karachi, Pakistan. Untruth news sharing, cyberbullying, and self-regulation has indirectly projected the social media fatigue in the presence of depression as a mediator. Moreover, due to the current study limitations, it is suggested to conduct more studies in the future on the same variables in different regions.

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1. Introduction

A massive role has been always played by the internet in changing or molding the type of news that has been consumed by the customers. The type of traditional media in the early times was only considered radio and television through which consumers receives information or news which used to be based on more or less likely on the conventional sources however, in this era due to social networking sites consumers are being more relied and expose to the information they get from the online sources. Networking sites also gives full rights to everyone in order to share any content without doing fact checking or the editorial judgement of the content (Liu, Liu, Yoganathan, & Osburg, 2021). Moreover, organizations receive the permit from the social media for familiarizing the audience with creative and useful practices

of the management while making introduce and implementing new and more unique models of business, for sharing a piece of knowledge, enhancing the collaboration, for communication reshaping and seeking improvements (Khan, Khan, & Moin, 2021).

The stream by which fake news reaches the audience influences the people and also creates challenges for many companies, fake news regarding any brand and product takes place on social media which may also considered responsible for misleading specific brands or product audience and decreasing their sales and productivity and if the news was deliberately made for the purpose of misleading (Keles, McCrae, & Grealish, 2020). Whereas, making users enable for connecting with each other is referred as the word social media. It has been explored in previous studies that social media use to play a vital role in providing the users with a platform which also overcomes the challenges of the time and distance which may arise in getting connect and re-connect with anyone and thus upsurges the offline exchanges and networks strength (Bekalu, McCloud, & Viswanath, 2019). One of the most popular platforms of social media i.e., Facebook is states that they can be many motivators which drives or triggers the human to stay informed with the activities of their mutual users or friends also, people also get drive with their desires to get entertained though social networking websites (Islam, Laato, Talukder, & Sutinen, 2020). Social media is considered very important in the time period of the pandemic in people lives, social media also allowed or enabled every individual self for the news sharing in addition with all individual's viewpoints and experiences all around the world with everyone in the real time.

The issue of the media regulation platform is controversial for a bigger society with large number of people. In addition, basis of traditional media regulations is dependent on smaller number of users and those users are also responsible for creating the media that is linked with the huge people who further consume and also considered incapable of impacting or effecting content directly (Shariff & Kosmin, 2012). Regulation's actions in the social media are more intensive to the disclosure of interest, protection of children, material prohibition and code practices. In pandemic the source of information has become social media for every individual around all over the world.

1.1. Problem Statement

Cyberchondria health issues has been enhanced due to the overload of the information which is inaccurate, inexact, ambiguous an uncertain in the situation such as pandemic – Covid 19. The intensity by which the information has been shared on the social media is resulted in the spread of the information or news to every individual through their reach on the websites URL's shared (Chiou & Tucker, 2018). In addition, inaccurate statements apprehension has influenced the elections in US in 2016 because 62% approximately users in US are the adults and they receive the information or news through the social media whereas the Facebook is the most typical mainstream for the spread of the inaccurate news in wide share and thus, individuals in huge quantity also claims that sharing inaccurate, fake, and untruth new is much cheaper in order to deliver the particular signals as consumers restricts themselves to be it true and also consumers also enjoy the opinionated news to the greater extent (Chiou & Tucker, 2018). Patrons can also attain the extensive alterations type of newscast through the cyberspace. However, information bases to which consumers are more exposed in this era is online information such as social media websites which also gives a permit to every individual to the any content without checking its authenticity (Allcott & Gentzkow, 2017). Two third adults are using the Facebook, 16% adult users are of twitter whereas 20% users are of Instagram. Furthermore, it has been also declared that Facebook, twitter and Instagram is originating the most of the traffic of inaccurate or fake news because of the enormous fraction of the referral ID's of fake news sites in comparison of the websites of the accurate news (Meinert, Mirbabaie, Dungs, & Aker, 2018).

In addition, cyberbullying is known as the communication that take place online and leaves a negative influence on the mental health of the individual. Symptoms of stress and has also been claimed by the 32% victims whereas, 38% victims have experienced emotional distress (Karmakar & Das, 2020). This study determined the impact of the inaccurate news, cyberbullying factors and self-regulation factor on the social media in the times of COVID-19 and the individuals are gets easily triggered by the entertainment does not show concern towards the information reliability of the shared news any social media platform. However, this

study will also determine the new and effective strategies for reducing these problems with the use of social media.

2.   Literature Review

Affordance lens is adopted in the current research to make it clearer and more understandable that users of social media connected themselves with huge range of platforms within the COVID-19. Empirical and theoretical methods shall be offered by the author of the study to make a connection with the topic is included in this section.

2.1.   Cognitive Load Theory

The theory of cognitive load is established in the late 1980's which tells that the work memory usage amount is present for storing the information for the long time in experience presence of the cognitive load which may be different in each individual. Moreover, cognitive load theory enlighten three types of cognitive load i.e, germane, intrinsic and extraneous (Chong, 2005). In the more wider or broader perspective, " HCI – human capital interaction" in determined more frequently in the extraneous load which further specifies the environmental kind of stimuli that is also responsible for every individual brains to gives reactions. Information is processed in the results if intrinsic load which also influences the state of mind of every single person including their knowledge priorly (Sweller, 2010).   Past experiences of the learners and well structured information may results in lowering the intrinsic load but human behavior can still influence by its progress by playing an extensive role in achieving unique and new piece of knowledge that may also be referred as human beings comfort zone. Vygotsky proximal and CLT zones of development excess the information which can further be theorize shall transpire when individual is consuming themselves with the extra unique information and may taking them way far from their zone of comfort. Consuming extra information can also results in inspiring to step from the real knowledge which further backs from the zone of the proximal establishment.

3.   Conceptual Framework

Conceptual framework of the existing study is developed on three independent variables i.e; cyberbullying, self-regulation and fake news sharing. (SMF) social media fatigue is the dependent variable. Role of mediating variable is been played by depression. Below given is the figure of the conceptual framework;

Figure 1: Conceptual Framework
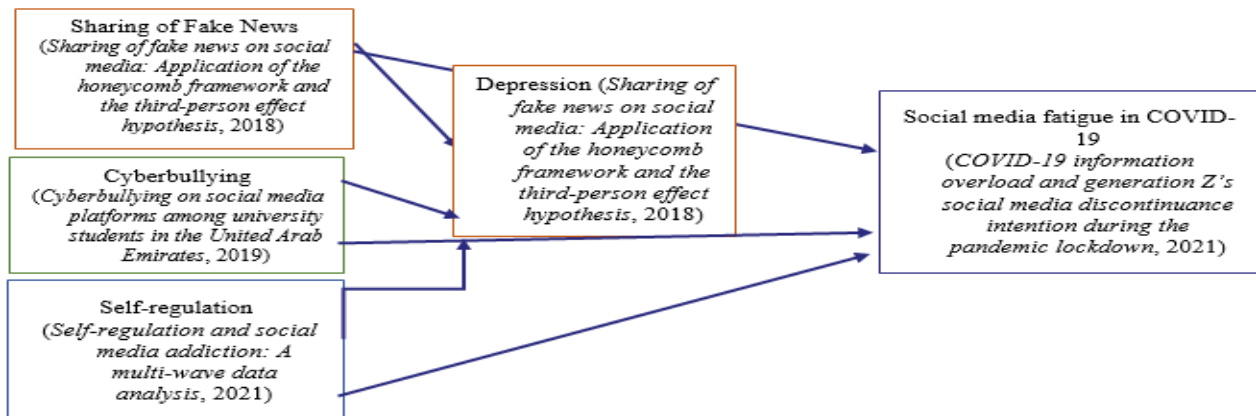
3.1.   Hypothesis Development
3.1.1. Fake news sharing and social media fatigue in COVID-19
Social media fatigue (SMF) is referred to the tendency of the user that is required for twitching users from the social media after users getting overawed due to the uncountable social websites. Also, the word fatigue denotes to the cognitive surplus however it also represents the word fatigue into two main components, information overload is the first component and communication overload is the second component. In addition, it has been contended by different researchers that a intensive negative implication on the service operators and businesses has a impact due to the social media fatigue (Kang, Zhang, & Yoo, 2020).   Social media fatigue can be very harmful for any individual and can also fallouts in damaging the both business and service operator as it can be a result of fatigue in the use of the service

withdrawal that can also lower or decline the profits margins of organizations and service operators (Dhir, Yossatorn, Kaur, & Chen, 2018). SMF is also the social media's user aptitude which may slow down its usage after users feels overload with many contents and friends. It also requires extra time to keep in touch with the contacts of the social media (Cao, Khan, Zaigham, & Khan, 2019). Supporting theory has been used for inspecting the social media characteristics and its impact in increasing the stressors while invasion of life and privacy fallouts into SMF (Adhikari & Panda, 2020).

H1: fake news shared has a significant relation with the social media in pandemic.

3.2. Cyberbullying and Social media fatigue in COVID-19

Cyberbullying takes place on technology or digital devices such as cell phones, tablets and computers where as it is done by posting or sharing and sending harmful or false content which can relate to every individual. The concept of the cyberbullying is distinguishing and different from the traditional type of bullying. Most of the teenagers is went through the process of cyberbullying and been considered its victims. Whereas it takes place in the cyberspaces through multiple mediums for instance, by commenting negative of anyone's post or commenting negative in online chats. Most of the times, it has been done of the social platforms such as Instagram, Twitter, and Facebook and considered as a vital problem for such huge platforms (Jagruti Varule, 2020).

H2: Cyberbullying has significant relation with social media fatigue in pandemic.

3.3. Self-regulation and social media fatigue in COVID-19

Self-regulation is referred to the method of converting goals into reality by doing every possible action. Occasional and planned feelings, behaviors and self-generated thoughts are also describing the concept of self-regulation. It can be a problem for individuals to regulate actions who drives through the DS-R for example, people can turn out to be more weak to the actions which are totally based on impulse and far beyond the planned type of cognition also, it makes people behavior additionally responsive to make their selves associated with sub optimal and irresponsible behavior through decreasing the people well being.

H3: Self-regulation has significant relation with social media fatigue in pandemic.

3.4. Sharing of fake news, Depression and Social media fatigue in COVID-19

Depression is primarily an emotional state of the person in which every human being diminishes the pleasant feelings from themselves. In depression every single human being may go through extreme emotions of two different types i.e., linking everything positive with the negative and linking every feeling high with the low. According to Lim, Park, Iijima, and Ahn (2017), the exposure to the unnecessary SMF features may trigger or drive the social media users for keeping them into the status of perceived overload along with the negative discontinuous and emotional behaviors. Significant connection is seen in US in the year 1787 in the adults and depression (Bekalu et al., 2019). it is also determined that people with the depression are always more persuaded to interact or use social media websites which is also denotes the SNS i.e., "Social networking sites" however, it is responsible for increasing and turning out the constructive discussion in between the authors. Fake news is also known as untruth or unreal news and it being passing on to the audience in such a structure and manner which makes individual to consider it legitimate and authentic news (Talwar, Dhir, Kaur, Zafar, & Alrasheedy, 2019). Thus, it has been hypothesized;

H4: Depression mediates the connection between fake news sharing and social media fatigue in pandemic.

3.5. Cyberbullying, Depression and Social media fatigue in COVID-19

Cyberbullying is responsible for leading a vital and serious problem which can be source for many behavioral problems for the social media victims that may further increase the communication advancement and electronic information though, on lives of individual a reflective effect is seen due to social media (Wang et al., 2019) . Moreover, depression is the main and foremost mental problems that has been connected with the cyberbullying behavior (Xantus, Saltz, & Shaw, 2015). A survey in 2015 also revealed that 1200 middle school

students are been recognized with the victims of cyberbullying approximately 23%. There is a direct link in between the depression and cyberbullying among the teenagers as per one more research of online phenomena (Kwan et al., 2020). Thus, it has been hypothesized;

H5: Depression mediates the connection between cyberbullying and social media fatigue in pandemic

3.6. Self-regulation, Depression and Social media fatigue in COVID-19

Self- regulation deliberately entails the controlling behaviors for accomplishing the particular goals or objectives of the individual which further focuses on individual overcoming mechanism and effects the negative tasks i.e., social settings in appropriate behaviors and technology related conflicts (Baker, 2019). Networking websites frequent use resulted in increasing the depression in individuals Kircaburun (2016) stated depression and despair of great extent can be seen in individual of high schools due to the use of social media on daily basis. Current study claimed that Instagram and Facebook use for a long period can make student or individual more depressed or despair. Moreover, as per another research, 25% individual or students has been recognized with depressive symptoms that can be a result of updating status on Instagram and Facebook.

H6: Depression mediates the connection between self-regulation and social media fatigue in pandemic.

3.7. Research Gap

The current study knowledge gap is that the variables studied in this research have not been studied previously, in present order with the fatigue of social media in covid-19 where depression has played a role of mediating variable. However, future researchers may also use FOMO- fear of mission out as a mediating variable. Moreover, all the variables of this study have been adopted from numerous past researches. Due to socio economic factors this study will have different findings in Pakistan and this research will also be filling the gap while studying the variables of this study in Pakistani context via using several social websites just for investigating how the variables has influenced social media and human behaviors.

4. Methodology

The present study is quantitative in nature where the questionnaire was used to measure study variables. Besides, the study uses cross-sectional design and deductive approach due to hypothesis testing and pre-existing theories. Authors use different social networking sites such as Facebook, Instagram, Twitter to identify the relationship. Lastly, non-probability sampling method was used as the population was unknown and PLS methodology was adopted to scrutinize the data.

4.1. Respondents Profile

The present study used survey method to identify the impact of social media fatigue during Pandemic through social networking sites such as Facebook, twitter or Instagram. The projected population of the study is 200 and the drawn sample size is 132 which was calculated with the help of RAO software. Convenient sample technique is employed due to availability of respondents. The questionnaire was circulated randomly to participant through social networking sites.

4.2. Measurement and Scales

The survey questionnaire was constructed in two portion. The first portion contains basic information of sample population such as demographics. Where the second part contains main questionnaire and total 21 indicators were used which were borrowed from past literature. Five-point Likert scale was used to measure the items ranging from strongly agree to strongly disagree.

4.3. Independent Variable
4.3.1. Sharing of Fake News

Sharing fake news questionnaire was borrowed from the study of (Talwar, Dhir, Singh, Virk, & Salo, 2020)

4.3.2. Self-Regulation
For self-regulation, four items were used taken from (Khan et al., 2021). The scale was 5-Likert ranging from strongly agree to strongly disagree.

4.3.3. Cyberbullying
Cyberbullying scale was taken from Abaido (2020) which was based on 4 items in total

4.4. Mediating Variable
4.4.1. Depression
Depression scale was adopted from (Talwar et al., 2020). The scale was consisted of 5 items ranging from strongly agree to strongly disagree.

4.5. Dependent Variable
4.5.1. Social media fatigue
Social media fatigue is the dependent variable of present study and was measured through four items taken from (Liu et al., 2021).

Table 1

Construct	Source	Item	Cronbach Alpha
Sharing of fake news	*Sharing of fake news on social media: Application of the honeycomb framework and the third-person effect hypothesis* 2018)	4	0.864
Self-regulation	*Self-regulation and social media addiction: A multi-wave data analysis* 2021)	4	0.786
Cyberbullying	*Cyberbullying on social media platforms among university students in the United Arab Emirates* 2019)	4	0.817
Depression	*Sharing of fake news on social media: Application of the honeycomb framework and the third-person effect hypothesis* 2018)	5	0.719
Social Media Fatigue	*COVID-19 information overload and generation Z's social media discontinuance intention during the pandemic lockdown* 2021)	4	0.714

Figure 2: Number of Profiles in Social media sites

Since the table confirm the validation of pilot testing, thereby, reliability of variables was measured through smart PLS. Chiou and Tucker (2018) also exemplified that reliability values either be 0.7 or more than it. It is also to be noted that data taken for reliability testing was 5% of total sample size which is 15 in numbers.

5.   Results
Table 2: Descriptive Analysis

	Mean	Std. Dev.	Variance	Skewness	Kurtosis
Sharing of fake news	2.35	.761	.531	-1.342	4.122
Cyberbullying	2.45	.742	.536	-1.434	2.53
Self-regulation	2.67	.747	.501	-.4221	.543
Depression	2.76	.645	.432	-1.422	1.532
Social media fatigue	2.98	.686	.411	-1.456	-.675

The aforementioned results depict that the data distribution is moderately skewed as the values range between -0.446 to -1.614. As far as kurtosis values are concerned, the values range between 5.077 and -.0755. Besides, t-distribution is followed with kurtosis positive values, however, beta distribution is followed with kurtosis negative values(2015). As per findings, convergent validity is confirmed because AVE values and composite reliability values of each construct is under range that is 0.5 and 0.7 respectively.

Table 3: Convergent Validity

Constructs	Mean	Std. Devaition	Composite Reliability	(AVE)
Sharing of fake news	2.43	0.41	0.876	0.511
Cyberbullying	2.43	0.76	0.801	0.543
Self-regulation	2.22	0.61	0.842	0.618
Depression	2.12	0.54	0.850	0.765
Social media fatigue	2.41	0.78	0.786	0.778

Table 4: Discriminant Validity

	Sharing of fake news	Cyberbullying	Self-regulation	Depression	Social media fatigue
Sharing of fake news	0.765				
Cyberbullying	0.629	0.755			
Self-regulation	0.711	0.642	0.765		
Depression	0.743	0.618	0.654	0.654	
Social media fatigue	0.512	0.654	0.817	0.561	0.716

The above table depicts that all of the study constructs are unique and diverse in nature because value of correlation is lesser than variance square.

Table 5: Path coefficients

|	Beta	T-Stats	P-Val	Results
Sharing of fake news -> Social Media Fatigue (H1)	-0.108	5.012	0.003	Accepted
Cyberbullying -> Social Media Fatigue (H2)	0.123	3.558	0.024	Accepted
Self-regulation -> Social Media Fatigue (H3)	0.865	7.122	0.00	Accepted
Sharing of fake news -> Depression -> Social Media Fatigue (H4)	0.167	3.121	0.004	Accepted
Cyberbullying-> Depression -> Social Media Fatigue (H5)	0.501	2.712	0.011	Accepted
Self-Regulation-> Depression -> Social Media Fatigue (H6)	0.347	4.313	0.002	Accepted

Figure 2: Measurement Model
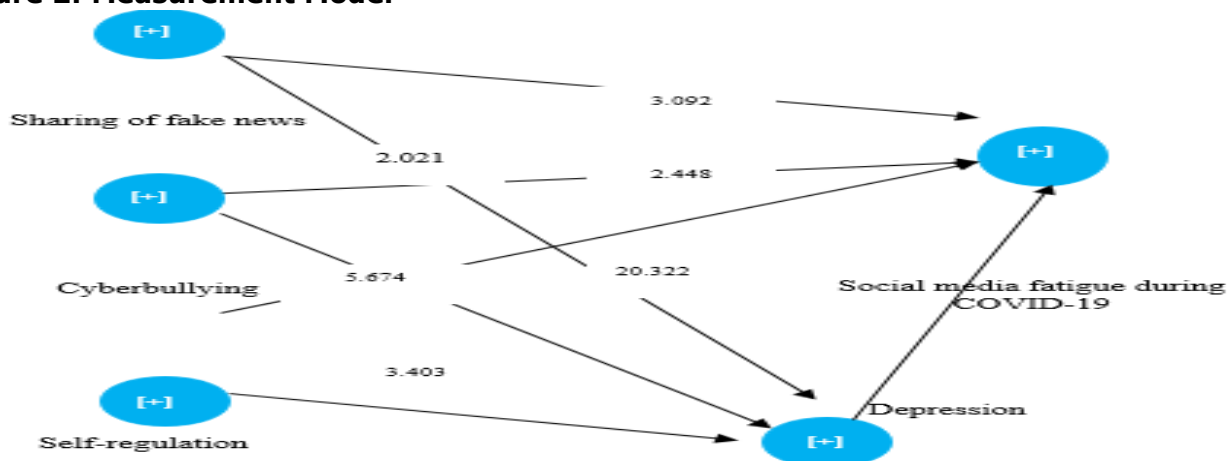
Figure 3: Structural Model
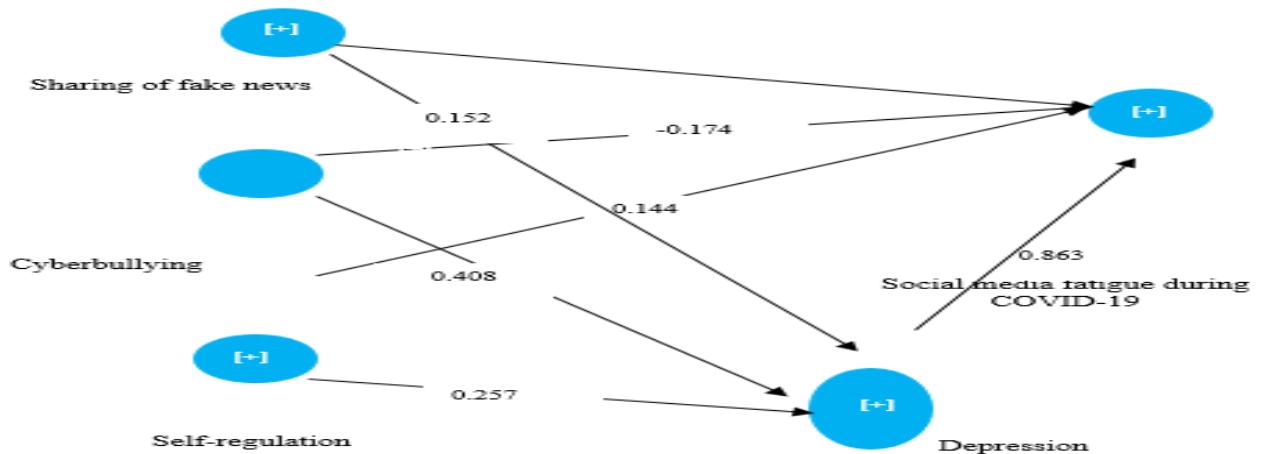
The results also reveal that four of the study hypotheses have been accepted directly while three indirect hypotheses were supported by results, hence, signifies the importance of mediator which is depression in the study.

6.   Conclusion

Technology, in present environment is crucial in every aspect of life. It affects every single human being especially youth. The present study, in this regard, discovered the negative and dark side of social media during the pandemic situation. The study chose UK youth as a study sample. According to literature, only few studies has been emerged which scrutinized the youth mental health which is being effected during the course of pandemic. Despite health issues, spread of unauthentic and unverified information was on of the major issue experienced by individuals during pandemic. Linking it with social media usage, social networking sites have play essential role in spreading such information because during COVID-19, the usage of social media and other technologies was a at peak especially in lockdown era. For example, the recent survey proclaimed that Facebook has surpassed its usage record because in lockdown, people had nothing to do except using technology to pass the difficult time. The present study, thus, explored the potential factors of social media and through findings it was identified that there is an fake news sharing is a potential mediator that establishes the link between social media fatigue and depression. Besides, it is also revealed that depression and cyberbullying influence is also linked with social media fatigue. As per findings, the study had made it possible to demonstrate the plausible mechanism about the fake news sharing of social websites that how it creates fuss and affect mental health.

6.1.   Limitations

The study serves both type of limitations, either theoretical or methodological. CLT, in present study, is the main limitation, however, the said phenomenon is being verified by extant literature. Besides, the prime concern of the study is also tied to cognitive load theory as the said theory is the part of instructional science which has previously been used frequently in HCI which offers more clarification about the usage of unique theories so that evidences can be gauged from different perspectives. The study also conceptualizes the perception regarding fake new sharing and gathered data cross-sectionally from Pakistani social media users during COVID. Moreover, authors' also confirmed reliability and validity of data in cultural and contextual manner. It is to be noted that results of the study might show biasness. The sample size of the study was gauged through RAO software which is only young adults. Hence, the population is restricted to only youth, future studies are recommended to conduct the research with different sample and sampling technique such as Krejice & Morgan (1970), thumb rule.

6.2.   Recommendations

The present study aimed to explore the influencing factors of social media such as cyber bullying, fake new sharing and self-regulation during pandemic. Based on the findings, the study proposes following recommendations:

- It is suggested to scholars to explore various influential social media determinants other than study variables such as self-promotion, entertainment, information sharing etc.
- Scholars are also advised to make use of related mechanism through which emotional and health-related problems associated with social media usage can also be identified.

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