

CAPITAL UNIVERSITY OF SCIENCE AND  
TECHNOLOGY, ISLAMABAD



**Impact of Cognitive Absorption  
on Academic Procrastination by  
Considering the Mediating Role  
of Cyberloafing and Moderating  
Role of Psychological Capital**

by

**Kanza Tahir**

A thesis submitted in partial fulfillment for the  
degree of Master of Science

in the

**Faculty of Management & Social Sciences**

**Department of Management Sciences**

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*I want to dedicate this achievement my parents, teachers and friends who always  
encourage and support me in every crucial time*



## CERTIFICATE OF APPROVAL

**Impact of Cognitive Absorption on Academic  
Procrastination by Considering the Mediating Role of  
Cyberloafing and Moderating Role of Psychological  
Capital**

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In the Name of Allah, The Most Gracious, The Most Merciful. Praise be to God, the Cherisher and Sustainer of the worlds. All thanks to Almighty Allah, The Lord of all that exist, who bestowed me with His greatest blessing i.e. knowledge and Wisdom to accomplish my task successfully.

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**Kanza Tahir**

## *Abstract*

The aim of this study was to investigate the impact of cognitive absorption on academic procrastination by considering the mediating role of cyberloafing and moderating role of psychological capital. This study examines the linkages based on the theory of planned behavior. Data were collected from 204 students studying in different universities in Pakistan using quantitative research approach. Research design consists of questionnaire survey. Analysis was done using SPSS. Results show that cognitive absorption has positive and significant impact on academic procrastination behavior of university level students. Whereas mediating role of cyberloafing between cognitive absorption and academic procrastination was also supported by results, while psychological capital was also found significant as a moderator.

**Keywords: Cognitive Absorption, Academic Procrastination, Cyberloafing, Psychological Capital, The theory of Planned Behavior.**

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# Abbreviations

<b>CWB</b>	Counterproductive Work Behaviors
<b>POB</b>	Positive Organizational Behavior
<b>PsyCap</b>	Psychological Capital
<b>SPSS</b>	Social Package for Social Sciences
<b>TPB</b>	Theory of Planned Behavior
<b>TRA</b>	Theory of Reasoned Actions

# Chapter 1

## Introduction

### 1.1 Background of the Study

In the contemporary world, technological devices e.g. smartphones, iPods, Tablets, and so many other gadgets are becoming part of the everyday life of everyone especially the youth i.e. the students. Students are even using these technological devices during class hours too for many reasons. In specific, these technological devices made the internet use very easy (Lim, Koay, & Chong, 2020). Nowadays the internet can be used by anyone anywhere and at any time (Rahaei, & Salehzadeh, 2020). If we consider this extensive usage of technological devices it can be observed that there are both advantages and disadvantages of using these technological devices (Durak, 2019). This rapid and widespread use of technological devices brings some common problems when these devices are used out of purpose during class hours (Akgun, 2020). One common problem of using these technological devices is cyberloafing. After the appearance of the concept of cyberloafing, it was only used for studying cyberloafing in business life. (Wu, Mei, Liu, & Ugrin, 2020, Zuber, Cauvin, Hass, Daviet, Coelho, & Kliegel, 2020)

The internet is being used in business workplaces for non-work associated purposes e.g. employees use the internet surfing shopping websites, chatting purposes (Lim, 2002, Wu, Mei, Liu, & C.Ugrin, 2020). The conception of cyberloafing, which previously has been used for research in the perspective of businesses only, now

researchers and practitioners have started getting interested in the study of cyberloafing in educational environments also (Ozcan, Gokcearslan, & Yuksel, 2017). Over the last few years, the cumulative usage of smart phones iPads and other technological devices at diverse stages of life and cumulative usage of activities relating the internet technology into the educational environment precisely during class hours have also produced some serious negative consequences in educational settings (Akgun, 2020).

During the last two decades when the use of smart phones become very common among people of all ages, it caused some serious consequences among the youth (Akgun, 2020). The situation become severe when these technological devices start getting used by the students during class hours and cause problems in educational settings for the students as well educationists who are responsible for the future of students (Agarwal & Avey, 2019). Business world is completely different from education environment, so cyberloafing in the educational environment can be described as the propensity of students to use technological devices during class hours for enjoyment and chilling purposes but not for education purposes (Kalaycı, 2010).

Technological devices are being used to get access, establish, examine, and distribute information among people around the world. People search shopping websites, places to spend vacations on, news, and athletic websites to get information and also use as Facebook, LinkedIn, Twitter, Dailymotion, YouTube, TikTok, Instagram, Snapchat, and Whatsapp, etc (Lim, Koay, & Chong, 2020) to collect and distribute information. By introducing technological devices into the education system, it becomes very easy for students to comfortably organize their lectures and assignments and they become more energetic in their educational learning processes (Wu, Mei, Liu, & Ugrin, 2020, Galluch & Thatcher, 2006).

Therefore, students are using technological devices in different educational tasks. In contemporary education settings, the use of technological devices reaches its highest level because educational institutions are closed by government orders throughout the world due to the covid 19 pandemic (Toquero, 2020, Gonzalez, Ruia, Hincz, Comas-Lopez, & Sobirats, 2020). In this regard, the The internet and technological devices are very valuable and advantageous if their usage is

under the control of the users i.e. students and for a particular purpose but not the students are in control of technological devices. Unrestrained usage of the The internet and technological devices can cause students in all stages of life to experience difficulties with their learning processes and family affairs (Ozcan, Gokcearslan, & Yuksel, 2017).

The the internet and technological devices carry social media, emailing, online shopping, chitchat, sports and other news, online vacation location and flights, etc. bookings and so many other things during class hours (Wu J. , Mei, Ugrin, Liu, & Wang, 2019). These activities influence the working of students' minds and divert it towards other things along during class hours. Kalaycı (2010) investigated the association between cyberloafing inclinations among the students of university level, different strategies of self-regulation in tackling cyberloafing, and lessons of programming. He found a significant association between social media networking, cyberloafing, and strategies for self-regulation (Rahaei, & Salehzadeh, 2020).

Baturay and Toker (2015) conducted a research study on 282 students of high school and examined the association between cyberloafing propensities and different demographic characteristics. He found in his research study that, boys are more into cyberloafing activities than girls and those who are experts in surfing and using the the internet are more into cyberloafing than those who are newly introduced to technological devices. Another research study was conducted on university-level students with a sample of 471 undergraduate pupils (Baturay and Toker 2015).

The results of this study showed the same results that boys are more involved in some kinds of cyberloafing activities e.g. shopping on amazon and eBay etc. and online gaming and other kinds of cyberloafing e.g. using social media does not fluctuate about genders (Akbulut, Dursun, Dönmez, & Şahin, 2016). Other than that, some research scholarships in the previous literature have indicated that the upsurge in the period of the internet and technological device usage affects academic performance negatively (Hazelhurst, Johnson, & Sanders, 2011; Ravizza, Hambrick, & Fenn, 2014).

Cyberloafing was described for the first time by Lim (2002). Lim (2002) acknowledged the perception of cyberloafing as the usage of the internet facilities and technological devices in the work environment by employees according to their own will and desires during the time duration of office. Cyberloafing was defined by Ugrin, Pearson, and Odom (2008) as a process that causes damages to the organization and employees too. Cyberloafing activities are observed in everyday life too in the form of reading novels, comic and historic books, text messaging, games like PUBG and Free Fire etc, online bank transactions, business dealings, and events that produce a loss of productivity. Other than that, cyberloafing also causes difficulties and postponements for planned events i.e. procrastination (El Din, & Baddar, 2019).

Nakamura and Csikszentmihalyi (2002) suggested in their research that “intention toward behaviors depends upon the way you perceive, how much attention you are giving to and how deeply you are involved in the phenomenon. As cyberloafing is defined as the involvement of individuals in events through the internet, it fills the gaps in their lives through social media and brings never-ending excitements (Turel & Serenko, 2012), because individuals/students are cognitively absorbed while using social media and having little information about the adverse effects of cyberloafing (Durak, 2019). According to the theory of planned behavior (Ajzen, 2011) in this situations perceived behavioral control develops an imprecise estimation of actually conducted behavioral control if the person has a very small amount of information regarding the behavior, the individuals became involved in cyberloafing (Lim, Koay, & Chong, 2020). And when the opportunities and resources mandatory to exhibit the actions of cyberloafing raises for the individuals/students (Durak, 2020), the probabilities for the individuals/students to become involved in cyberloafing activities increases accordingly that cause academic procrastination behavior of the individuals/students (Lin, 2009; Rouis, 2011; Tamir & Mitchell, 2012; Durak, 2019).

Psychological capital is a limitless emotional resource that can be nurtured and established by individuals/students to assist their private and academic success (Kirrane, Lennon, O'Connor, & Fu, 2016, Luthans, Avey, Avolio, & Peterson, 2010).

The introduction of individuals'/students' psychological capital amongst the students may cause academic procrastination behaviors. Particularly in online learning during this covid 19 pandemic, if the psychological capital in the students is high they will be better able to control their behaviors and consequently, it will reflect on their academic behavior (Goulão & Menedez, 2014).

Weaknesses of psychological capital among the students can be a reason for the appearance of cyberloafing activities. The current study tries to fill this gap in the literature. It is thought that there is a reciprocal relationship between psychological capital and cyberloafing behaviors and the current study tried to answer this question. The current study investigated that if the students are high on psychological capital then he/she will not be so much involved in cyberloafing i.e. psychological capital will reduce the positive relationship between cognitive absorption and cyberloafing.

## 1.2 Research Gap

There are so much researches done on the causes and consequences of excessive use of social media i.e. cyberloafing on the job performance of employees e.g. (Durak, 2019, Ozcan, Gokcearslan, & Yuksel, 2017, Tanrıverdi & Karaca, 2018, Akbulut, Dursun, Dönmez, & Şahin, 2016, and Ravizza, Hambrick, & Fenn, 2014). Nakamura and Csikszentmihalyi (2002) suggested in their research that “intention toward behaviors depends upon the way you perceive, how much attention you are giving to and how deeply you are involved in the phenomenon.

But its negative impact on students' lives is under researched topic in Pakistan. As cyberloafing is defined as the involvement of individuals in events through the the internet, it fills the gaps in their lives through social media and brings never-ending excitements (Turel & Serenko, 2012), because individuals/students are cognitively absorbed while using social media and having little information about the adverse effects of cyberloafing so they being so much involved in cyberloafing ignore their academic tasks which negatively impact them (Durak, 2019). The current research is trying to find the ways through which the negative

impacts of cognitive absorption and cyberloafing can be mitigated. The present research study suggested that personality of individuals/Students can impact their cyberloafing activities because emotions can be both trait-based and state-based (Kirrane, Lennon, O'Connor, & Fu, 2016). Trait-based characteristics are somehow everlasting, e.g. personality of individuals/students (Kirrane, Lennon, O'Connor, & Fu, 2016, Vakola, Tsaousis, & Nikolaou, 2004), while state-based characteristics are more momentary and are shown according to specific situations e.g. stress (Vakola & Nikolaou, 2005).

However, (Li, Gao, & Xu, 2020, Kirrane, Lennon, O'Connor, & Fu, 2016) argue that the cyberloafing behaviors of students can be changed by focusing on the state-based variables (Kirrane, Lennon, O'Connor, & Fu, 2016). This is a worth noticing concepts, predominantly because state-based features are more flexible and they are important and promising areas of a target for interventions (Kirrane, Lennon, O'Connor, & Fu, 2016). Integrating state-based features and variables into the examination of cyberloafing activities will produce more cooperative results that how cyberloafing behaviors can be changed among individuals/students (Durak, 2019). One increasingly prominent state-like variable that might moderate the effects of cognitive absorption on cyberloafing can be psychological capital, or simply PsyCap (Li, Gao, & Xu, 2020).

Having belief in themselves i.e. self-efficacy and having the determination to get success i.e. hope agency, the probability of individuals/students exhibiting cyberloafing will be increased, and so does the sense of perceived behavioral control to lower the level of academic procrastination will be decreased (Durak, 2020, Youssef & Luthans, 2013; Youssef-Morgan & Luthans, 2013; Luthans, Youssef, & Avolio, 2015), all of which are essential for the good academic performance of the students (Coskun, & Gokcearslan, 2019). Secondly, individuals/students who are high on psychological capital are expected to produce extensive pathways and strategies to overwhelmed hindrances i.e. hope and, to spring back and pick up lessons from hindrances i.e. resilience as in the case of covid-19 pandemics in the current decade of twenty-first century. (Gonzalez, Ruia, Hincz, Comas-Lopez, & Sobirats, 2020).

So the current study tried to fill this gap and tested the moderating role of psychological capital between cognitive absorption and cyberloafing (Agarwal & Avey, 2019). Being more positive, it allows these individuals/students to have an extended perspective and to draw from a prolonged collection of resources (e.g. healthy diet, exercise, adequate sleep, seeking the help of professors and classmates), and some psychological resources that can help them in various situations (Kirrane, Lennon, O'Connor, & Fu, 2016, Agarwal & Avey, 2019).

### 1.3 Problem Statement

In the contemporary world, the the internet and technological devices have come to be a tool that consumers from all stages of life have been using and it has become an important part of their lives (Rahaei, & Salehzadeh, 2020). Individuals/students face problems and difficulties in their lives, at workplaces, and in educational settings due to the excessive use of the the internet and technological devices i.e. cyberloafing (Young, 1996).

Previous literature had studied the problems caused by cyberloafing in the lives of individuals/students because of using The internet and technological devices (Li, Gao, & Xu, 2020, Tanriverdi & Karaca, 2018, Ozcan, Gokcearslan, & Yuksel, 2017) (Young & Case, 2004). The attractiveness of social media networks e.g. Facebook, TikTok and, Instagram has become a serious addiction among individuals/students in recent times (Alimoradi, Lin, Broström, Bülow, Bajalan, Griffiths, & Pakpour, 2019). Other than the the internet and technological devices usage has become an important part of the graduation and post-graduation studies and projects, the students are using the the internet and technological devices more.

In the current pandemic situations where all the institutions are being closed by government orders throughout the world. Government throughout the world instructed the educational institutions to conduct virtual classes (Gonzalez, Ruia, Hincz, Comas-Lopez, & & Sobirats, 2020).

In such situations, the level of cyberloafing is increasing very much. Students are using their mobile phones during class hours too which is affecting their studies

very badly. Students are delaying their educational activities up-to-the last hour and sometimes one student made an assignment and share it with the whole class so the whole class submits the same assignment (El Din, & Baddar, 2019).

Students are not taking the situation seriously. They are unaware of the negative consequences of their cyberloafing and procrastinating behaviors. The current study suggesting that being a state variable PsyCap can be developed among students so that it can help them.

## 1.4 Research Questions

The current study has the following research questions:

- Does cognitive absorption lead toward academic procrastination?
- Does cognitive absorption lead toward cyberloafing?
- Does cyberloafing lead toward academic procrastination?
- Does cyberloafing mediate the relationship between cognitive absorption and academic procrastination?
- Does psychological capital moderate the relationship of cognitive absorption and cyberloafing?

## 1.5 Research Objectives

The current study has the following research objectives:

- To analyze the relationship between cognitive absorption and academic procrastination.
- To analyze the relationship between cognitive absorption and cyberloafing.
- To analyze the relationship between cyberloafing and academic procrastination.

- To analyze the mediating role of cyberloafing between cognitive absorption and academic procrastination.
- To analyze the moderating role of psychological capital on the relationship of cognitive absorption and cyberloafing.

## 1.6 Significance of the Study

The research is significant both theoretically and practically. Up to the best of the researcher's knowledge, there is very little research available on the moderating role of psychological capital on the relationship of cognitive absorption and cyberloafing. The current research adds to the literature by studying the impact of cognitive absorption on academic procrastination through the mediation role of cyberloafing and by considering the moderating role of psychological capital. As the success of a country depends upon the success of a nation and students are the main resource for any country. So any country needs to build its nation with such qualities that can add to the economy of the country.

The current study is empirically important because it gives insight to the practitioners to develop the psychological capital of the employees. It is important to refine our knowledge on procrastination interventions. An important debate surrounding the topic of procrastination concerns its stability. Can students change this behavior? The current study is suggesting that students can change their procrastinating behavior by developing their level of psychological capital that will help them to lower the level of cyberloafing among them.

## 1.7 Supporting Theory

### 1.7.1 Theory of Planned Behavior

The theory of reasoned action presented by Ajzen and Fishbein, (1980) was extended by (Ajzen, 1991) in social psychology (Eagly & Chaiken, 1993). Both the theories i.e. the theory of planned behavior (TPB) and the theory of reasoned

action (TRA) were presented to provide descriptions of informational, instructional, and motivational impacts on behaviors and, actions (Ajzen & Fishbein, 1980). The the theory of reasoned action had its roots in the work of Fishbein on the mental and emotional processes through which attitudes and intentions cause behaviors and actions (Fishbein, 1967) and in the case of any investigation of the disappointment to exhibit some behavior from the information of attitudes of individuals. The the theory of reasoned action recommends that the immediate cause of voluntary behavior and action is one's attitudes and intentions towards engaging in that specific behavior (Conner & Armitage, 1998).

Attitudes and intentions just before a specific course of action or behavior put forth their influence on that specific behavior and action through attitudes and intentions (Ajzen, 2011). While proposing that behavior and action are purely in the control of attitudes and intentions, the the theory of reasoned action limits itself only to voluntary actions and behaviors (Ajzen, 2011). Some behaviors and actions that require some sort of skills, assets, or opportunities that are not available easily do not come under the umbrella of the the theory of reasoned action, in other words, these behaviors are probably to be unwell forecasted by the the theory of reasoned action (Fishbein, 1993).

The the theory of planned behavior tries to forecast involuntary behaviors also by integrating the concept of perceptions of control on the enactment of the behavior along with the intentions as a forecaster of the behavior (Ajzen, 1988, 1991). Contemplation of perceptions of control are significant since they incorporate the use of the the theory beyond its application on voluntary behaviors only (e.g., losing weight).

The the theory of planned behavior preserves the entire important concepts that comprise the the theory of reasoned action but suggests the accumulation of a third factor of attitudes and intentions i.e. perceived behavioral control. The the theory of planned behavior depicts that behaviors and actions are a function of perceived behavioral control along with behavioral intentions. Perceived behavioral control is the perception of individuals as the degree to which performance of the actions and behaviors are calm or hard (Ajzen, 1991). The connection between

intentions and attitudes and behavior shows the point that individuals tend to perform those behaviors they want to execute (Conner & Armitage, 1998). Though, the connections between perceived behavior control and actions and behaviors are difficult.

The association between perceived behavior control and actions and behaviors proposed that individuals tend to involve in those behaviors over which they have control and refrain from those behaviors on which they don't have any control (Conner & Armitage, 1998). On the other hand, it is also proposed that if attitudes and intentions are kept unchanged, behaviors and actions will be executed according to the increase in perceived behavior control. According to the earlier propositions of the the theory of planned behavior by Ajzen (1985) attitudes and intentions would be a strong forecaster of behaviors and actions with the increase in perceived behavior control.

Judgments of perceived behavior control are predisposed via beliefs relating to whether the individuals have entree to the obligatory resources and required opportunities to complete the execution of certain acts and behaviors effectively, subjective through the perceived power control of aspects to simplify or prevent the actions and behaviors (Ajzen, 1988, 1991).

# Chapter 2

## Literature Review

### 2.1 Cyberloafing

Cyberloafing was described for the first time by (Lim, 2002, Dursun, Donmez, & Akbulut, 2018) as the usage of technological devices and the The internet during the time of office hours for private surfing and browsing, shopping and e-mailing, etc. (Lim, 2002). O’Neill, Hambley, and Chatellier, (2014) described cyberloafing as the use of the The internet and technological devices at workplace/school settings by individuals/students for private devotions during workplace/school duration. Kalaycı (2010) defined cyberloafing as the propensity of individuals/students to practice the The internet and technological devices for those purposes that simply have no relation with the lesson during class hours.

Lim (2002) initially theorized cyberloafing as intentional usage of the internet and technological devices of their workplaces by employees but not for office work but their own needs and wants during office time duration or, in other words, the “information technological method of wasting time on the workplaces (Li, Gao, & Xu, 2020). Meanwhile, cyberloafing the introduction in the literature of academics, a substantial increase in the opportunities to involve in the usage of technologically-enabled loafing has been experienced, which results in the propagation of theorization of the variable (Andel, Kessler, Pindek, Kleinman, & Specter 2019). Several research studies are identifying and operationalizing cyberloafing in a broader way to comprise behaviors and actions that use the the internet and

technological devices for drives that are not just the internet related e.g. computing activities that are not related to work (Bock and Ho, 2009), and some other researchers and practitioners are investigating particular sorts of cyberloafing, for example, use of social media networks, that usage have increased at a high rate in topical years (Charoensukmongkol, 2014).

Some up-to-date empirical research work in the area of cyberloafing has also widened the definition of the variable to comprise some other tools that individuals can use to cyberloaf for example tablets, iPods and smartphones etc, that do not require technology to be provided by the organization (Gonzalez, Ruia, Hincz, Comas-Lopez, & Sobirats, 2020). Items/questions in the most frequently used measures of cyberloafing emphasize on a particular type of activities rather than investigating the source of the internet obtained by the individuals/students (Durrak, 2020).

These shifts in the conceptualization show that how much technology got advanced in the current ages particularly in the last two decades. E.g., in the earlier days, the internet and technological facilities were so expensive that only huge organization can afford it for office use and employees can use the the internet only in the office so they illegally used the the internet during office hours at the cost of organizations and didn't work properly (Agarwal & Avey, 2019, Dursun, Donmez, & Akbulut, 2018). Nowadays, when employees commonly bring their devices that can use the the internet to workplaces, managers and supervisors are very much worried about other penalties of cyberloafing, for example, time theft, loss of productivity, or violent behaviors (Ozcan, Gokcearslan, & Yuksel, 2017).

Despite many discrepancies amongst the so many conceptions of cyberloafing and other connected hypotheses, they mainly emphasize those individuals who use the the internet and technological tools to get rid of work and join those tasks that are not related to (Saleem, 2019). Therefore these behaviors and actions can be taken as withdrawal behaviors that are promoted by the use of the the internet and technological devices (Agarwal & Avey, 2019). As such the researcher in the current research will comprehensively theorize cyberloafing as individual/students behaviors and actions that encompass the use of the the internet and technological

devices to get involved in behaviors and actions that are not related to work (Ajzen, 2011).

Cyberloafing intimidates almost all of the institutions since individuals/students have plenty of chances to involve in these cyberloafing actions and behaviors because of the easy availability of the the internet and technological devices (Agarwal & Avey, 2019). Previous literature recommends that cyberloafing behaviors and actions can vary according to the severity and intensity, and involves a diverse form of behaviors and actions, that range from simple browsing and surfing the the internet to directing private shopping to text and interactive on social media networks during work/class hours (Wu, Mei, & Ugrin, 2018).

Contemporary theories have directed researchers to investigate the association of cyberloafing with different other variables e.g. perceptions of justice in the organization (Lim, 2002), attitudes and intentions of individuals (Askew, Buckner, Taing, Baucer, & Coovert, 2014). Moreover, variables of personality and different characteristics of the job have also gained attention, probably because of the straight practical consequences of such results (Wu, Mei, & Ugrin, 2018). The researchers and practitioners not only predict the cyberloafing behaviors and actions but also emphasize the outcomes of cyberloafing that whether cyberloafing results in negative consequences for the workplace or it can give individuals with relaxation in the middle of a stressful busy schedule (Akbulut, Donmez, & Dursun, 2017).

Basically, researchers and practitioners, and managers have both quires that if cyberloafing is good for individuals/students or it is counterproductive behavior in workplaces/educational institutions (Andel, Kessler, Pindek, Kleinman, & Spector 2019, Pindek, Krajcevska, & Spector, 2018). According to the reports provided by media regarding cyberloafing, it can be identified that it is undoubtedly a counterproductive behavior at workplaces/ educational institutions (Karaoglan-Yilmaz, Yilmaz, O zturk, Sezer, & Karademir, 2015). E.g. if we take the example of train disseminator. If this man is playing games on a mobile phone during working hours and doesn't focus on his duty (Santana, Saunders, & Smale, 2016).

Because of his carelessness, he didn't direct a couple of trains properly which results in the collision of the trains, causing 80 people that were traveling in the train to be wounded and killed 11 people. Not all of the examples of cyberloafing activities are generally considered harmful in the academic literature that has provided diverse viewpoints as horrible and grievous an accident can be. Block (2001) suggested that cyberloafing was just a modern form of conventional loafing; he suggested it should be handled by using the same methods and tactics that have historically been operative for other counterproductive work behaviors.

Previous literature has discussed both the advantages and disadvantages of cyberloafing. A research study examined the use of Facebook by employees of the emergency department in a hospital and find out that the employees in the health care unit spent almost twelve minutes in one hour on surfing and browsing Facebook (Grieve, Indian, Witteveen, Tolan, & Marrington, 2013). Sadly, but truly it was found that such behaviors that are not related to work e.g. using social media networks i.e. Facebook and Twitter etc. increase with the increase in the workload (Wu, Mei, Liu, & Ugrin, 2020).

Using Facebook cannot be seen as harmful but in the previous example of employees working in the health care unit, if these employees are using social media networks while on duty, they are endangering the lives of their patients which is a lot more dangerous than resource or productivity loss of organization (Koay, & Soh, 2018).

Lim and Chen (2012) suggested the possible advantages of cyberloafing to individuals/students that it helps to stabilize emotional states of individuals/students and suggested that there are some types of cyberloafing activities that are helpful to them e.g. browsing and surfing the the internet, affected individuals/students positively. Other than discussing the advantages and disadvantages of cyberloafing activities to the workplaces/educational institution, these cyberloafing behaviors activities can cause some other non-work related benefits to the individuals/students (Andel, Kessler, Pindek, Kleinman, & Specter 2019).

As the technological advances have almost diminished the boundary line between work and family activities, occupying family time also with work-related tasks

and activities for example now employers can access their employees anywhere at any time because of smart-phones, individuals may consider cyberloafing as an alternate way to reestablish the equilibrium between work and family spheres (Wu J. , Mei, Ugrin, Liu, & Wang, 2019).

But if we consider the previous literature on cyberloafing regarding its impact on students it can be seen that literature has discussed its negative consequences on students' performance (Karaoglan-Yılmaz, Yılmaz, Öztürk, Sezer, & Karademir, 2015). But some studies have shown the positive consequences of cyberloafing activities on students as it decreases the level of stress in them (Leung, 2006).

According to the research of Vitak, Crouse, and LaRose (2011) cyberloafing behaviors and activities can be advantageous for individuals/students as it can increase the creativity in them, reduction of stress, satisfaction increases, and enhancement of mental health. Coker (2013) suggested in his research study that sometimes sudden changes in the schedule of individuals/students other than the breaks that are routinely based can cause an upsurge in the productivity level of individuals/students by affecting the attentiveness of the individual/students in a positive manner (El Din, & Baddar, 2019).

Consequently, cyberloafing behaviors and activities may cause an upsurge in performances of the students at educational institutions, academic advances, which further results in the improvement in the academic success of students (Durak, 2019) if the the internet and technological devices are used appropriately. Cyberloafing activities at educational institutions have been described as the usage of the internet and technological devices during class hours by students for the purposes that are no way connected to study work (Kalaycı, 2010). The workplace environment and educational institution environment are dissimilar from one another, and likewise, students and individuals working also differ expressively in relation to the use of cyberloafing behaviors and activities (Akbulut, Dönmez, & Dursun, 2017). Research studies on cyberloafing behaviors and activities in educational institutions are somewhat new and the working environment and culture of the organization are also different from the class setting (Akbulut, Dursun, Dönmez, & Şahin, 2016). Classroom and business environments differ in terms of how they are regulated, the rights of the employees and the students, the economic situation

(e.g. cyberloafing in the form of shopping), the mode of communication, the daily schedule, and the systems of monitoring (Akbulut, Dönmez, & Dursun, 2017).

Though the usage of the the internet and modern technological devices like smart-phones in educational settings offers many scholarship opportunities (Andel, Kessler, Pindek, Kleinman, & Specter 2019), cyberloafing behaviors and activities have a negative influence on educational settings and procedures (Wagner, Barnes, Lim, & Ferris, 2012), therefore cyberloafing behaviors and activities have both advantages and disadvantages attached to it. If students use the the internet and technological devices to meet their personal needs but do not complete their educational assignments and other activities during class hours, students cannot achieve their educational success and cause damage to their career in the long run (Durak, 2020).

The usage of social media networks and text messaging during class hours negatively impact students (Junco, 2012). During class hours, students use text messaging extensively, demonstrating that students are not conscious of the negative impacts of such type of cyberloafing behaviors and activities on the learning procedures (Tindell & Bohlander, 2012). As per the the theory of planned behavior, the performance of a behavior depends on one's actual behavior i.e. the willingness of students to use the the internet for non-study related purposes and the availability of the the internet (Wu, Mei, Liu, & C.Ugrin, 2020). As the required opportunities and resources to execute that behavior of cyberloafing increase for the students, the chances for the students to involve in cyberloafing increase accordingly which results in the academic procrastination behavior of the students (Wu, Mei, & Ugrin, 2018).

## **2.2 Cognitive Absorption**

Cognitive absorption is defined as a deep commitment situation during the experiences with technology (Agarwal & Karahanna, 2000; Kocak Usluel & Kurt Vural, 2009). The case of deep commitment is communicated as the condition of concentrating time, inquisitiveness, desire, interest, control, and consideration

on something. Consequently, it is suggested that the level of cognitive absorption among students will affect the usage of internet and technological devices to no purpose (Tanriverdi & Karaca, 2018).

In accordance with the the theory of planned behavior (Ajzen, 2011), intentions, attitudes, and emotional reactions like emotion, pleasure, routine, satisfaction needs, and high involvement have been suggested as important predictors of individuals'/students' behaviors, actions, beliefs, and consequences (Conner & Armitage, 1998, Ajzen, 2011).

The attitudes and intentions of individuals/students strongly predict the non-stop usage of Social Network Sites i.e. cyberloafing because it gives them enjoyment and it is under the control (Agarwal & Karahannal, 2000; Venkatesh, 1999). The previous research studies on cognitive absorption have indicated that the engagement into the pleasure, control, and nosiness of cyberloafing. The basic assumption in the current study is that cognitive absorption leads to an increased level of cyberloafing (Durak, 2019, Agarwal & Karahannal, 2000; Venkatesh, 1999).

The variable of cognitive absorption was developed based on three interconnected research ideas: i.e. the trait of absorption, the the theory of flow, and cognitive engagement (Agarwal & Karahannal, 2000). First, Tellegen and Atkinson (1974) were one of the first researchers to theorize the peculiarity of absorption as the part of an individual's personality that causes in arrangements of total consideration where the matter of consideration fully consumes the attentional capitals of individuals.

Secondly, the state of flow was suggested by Csikszentmihalyi (1975) which proposes that when individuals/students are feeling pleasure in doing some activity they come to be totally engaged in it and nothing around them appears to matter to them. According to a research study of Csikszentmihalyi (1975, 1990), what makes people enjoy the moment of different life activities, a state of optimal experience, is this flow state that derives from intrinsic motivation or the autotelic personality. An individual/student can say to have an autotelic personality if he/she can enjoy an action irrespective of outside rewards (Csikszentmihalyi, 1975, A.Jumaan, Hashim, & M.Al-Ghazali, 2020). The flow state described by

Csikszentmihalyi, (1975) is theorized as a multi-dimensional idea that comprises a control feeling, extreme concentration, out of self-consciousness, and a renovation of time (Csikszentmihalyi, 1990, A.Jumaan, Hashim, & M.Al-Ghazali, 2020). Thirdly, cognitive engagement denotes the condition of liveliness in the framework of the interaction of humans with technological devices (Webster & Ho, 1997).

The three different measurements of cognitive engagement comprise inherent interest, inquisitiveness, and focus of attention (Webster & Hackley, 1997). Agarwal and Karahannal (2000) theorized a new variable based on three concepts discussed above called cognitive absorption and analytically reinforced its direct impact and indirect impact on behavioral attitudes and intentions to the usage of Web (Barnes, Pressey, & Scornavacca, 2019).

Consequently, some other researchers and practitioners having curiosity about the interaction of humans and computers have started studying the concept of cognitive absorption in several frameworks, such as social media networks, educational institutions, and virtual learning (Leong, 2011; Lin, 2009; Rouis, 2011). Likewise, some studies among these have concentrated on discovering ways that upsurge the gratification level as a way to get the positive motivation to use the system. Though, it is debatable that cognitive absorption can also cause negative results, such as cyberloafing, as it causes to constrict individuals/students' logical thinking (Durak, 2020).

Consequently, Tanriverdi and Karaca (2018) suggested that if one wants to decrease or stop cyberloafing actions in educational settings, it is notable to govern cognitive absorption level, that is amongst the social and mental aspects that are compelling in such students' activities.

Cognitive absorption is described as "the condition of intense dependency on technological experiences" (Agarwal & Karahanna, 2000) and it was described by five dimensions: time, focus of interest, curiosity, control and pleasure (Koçak-Usluel & Kurt-Vural, 2009). The focus of interest is defined as the situation where the concentration is totally focused on such activities where interaction with technological devices involved. Somehow, Leong (2011) examined the association between being

socially present, cognitive absorption, student satisfaction in virtual learning and interest.

The other dimension of the scale is curiosity. It is the keenness of the individual/student when he/she is interacting with the technological devices, pleasure and enjoyment is the situation where the individual/student feels enjoyment while interacting with the the internet and technological devices (A.Jumaan, Hashim, & M.Al-Ghazali, 2020). One more dimension of the scale is time. It is the perception of individual/student that the speed of time increases or the individual/student had consumed extra time than he/she has planned before starting an interaction with technological devices, and control is the insight of the individual/student that he/she has control over his/her resources (Koçak-Usluel & Kurt-Vural, 2009).

Agarwal and Karahanna in (2000) defined cognitive absorption on a measurement tool having multi-dimensions (i.e. temporal dissociation, focused immersion, heightened enjoyment, control, and curiosity) variable with engagement in the the internet and technological devices that results in two significant philosophies about the use of technology i.e. perceived helpfulness and perceived comfort usage. It was suggested that cognitive absorption is the important determinant of cyberloafing. Lin (2009) argued that cognitive absorption significantly affects the behavioral intentions of students towards the use of technology and it will determine the level of cyberloafing among the students.

## 2.3 Academic Procrastination

Did you ever postponed something important and needs to be completed right away, and you knew that postponing it would result in bad consequences? If this is the case, you had been involved in illogical postponement or procrastination. Procrastination is defined as an action or illogical propensity to voluntarily postpone a planned sequence of actions (Steel, 2007). Likewise, academic procrastination is the exercise of escaping and delaying academic actions (Solomon & Rothblum, 1984), and it is a general occurrence. According to some researches, about 13.8 to 49.9 percent of students that are students of medical sciences procrastinate their

academic activities and assignment till the deadline arrived (Madhan et al., 2012; Mortazavi, Mortazavi, & Khosrorad, 2015).

Academic procrastination is recognized among students as somewhat they do infrequently. Conversely, procrastination can also be an enduring propensity or a practice of unnecessary delaying something that is required to be completed spontaneously (Ferrari, Diaz-Morales, O'Callaghan, Diaz, & Argumedo, 2007). When this happens to you, there are probabilities that you identify that it is almost impossible to eliminate this behavior, although if you want to discontinue procrastinating behavior. Specifically, amongst students, severe/chronic procrastination seems to be problematical. Previous literature have suggested that procrastination impacts students' academic results for academic performance (Kim & Seo, 2015, Hen & Goroshit, 2020).

One of the important discussions regarding procrastination behaviors and actions is related to its constancy. Is there a way for individuals/students to get rid of these procrastinating behaviors? On one side, the previous literature shows that procrastination behavior is somehow permanent, somehow procrastinating may be credited to a hereditary factor (Gustavson, Miyake, Hewitt, & Friedman, 2014; Gustavson, & Miyake, 2017), and that somewhat strong associations are present with permanent variables, like conscientiousness and impulsivity (Steel, 2007). On the other side, the previous literature also recommends that individuals/students can transform their procrastinating behavior during their lifetime with the help of regular struggles (Hen & Goroshit, 2020).

During our everyday life, almost all of us are involved in procrastination. We postpone those tasks that seem unpleasant to us irrespective of our desire to do that as soon as possible. Sometimes the results of such procrastinating behavior can be unbearable (Agarwal & Karahanna, 2000, Li, Gao, & Xu, 2020). For example, we pass away at a young age since we procrastinate in abandoning smoking, focusing on our balance diet, or arranging proper medical examinations and the list continues (Li, Gao, & Xu, 2020). Procrastinating behavior is a shared conception articulating the delaying of activities willingly or forcibly regardless of the undesirable results produced by procrastination are acknowledged (Klingsieck, 2013).

Tuckman (1991) suggested that procrastination is recognized as lack or absence of self-regulation performance.

It was suggested by Rothblum, Solomon, and Murakami (1986) in their research study that procrastination behavior has a composite structure, and fundamentals of the procrastination behavior have emotional, cognitive, and behavioral scopes. Yildiz-Durak (2018) highlighted that behavioral scope i.e. idleness and not captivating actions on some tasks that need to be done, of procrastination conception is specifically studied in Turkey and its negative impacts are directing academics ways. Odaci (2011) suggested in his research that misapplication of the internet and technological devices and hang around online for a lengthy period of time at social media networks deprived of any reason results in individuals/students postponing educational tasks which are thought to be done within a limited period of time by them. Consequently, it can be said that procrastination behavior is associated with cyberloafing behaviors and actions and academic performance (Goroshit & Hen, 2019).

Academic procrastination is the delay of homework, educational tasks, studying for the exams, or responsibilities related to education, which are their academic responsibilities, until the last moment or postpone of the behavior by the students (Solomon & Rothblum, 1984). Tice and Bratslavsky (2000) suggested that individuals/students delay or ignore academic or educational tasks and assignments on the account of activities that have short-term results. Researchers have suggested incorporating such behaviors in the individuals/students that can counter the impacts of procrastinating behaviors (Hen & Goroshit, 2020).

In this view, an increase of individuals'/students' psychological capital level amongst them may avert academic procrastination behaviors. Particularly in online learning during this covid 19 pandemic, if the psychological capital in the students is high they will be better able to control their behaviors and consequently, it will reflect on their academic behavior (Goulão & Menezes, 2014).

Weaknesses of psychological capital among the students can be a reason for the emergence of cyberloafing behaviors (C, ok, 2018). The current study tries to fill this gap in the literature. It is thought that there is a reciprocal linkage between

psychological capital and cyberloafing behaviors and the current research is trying to answer this question.

## 2.4 Psychological Capital

Meanwhile, during some decades in the past, researchers and practitioners have identified the variable of psychological capital (PsyCap) in the field of positive psychology (Baron, Franklin, & Hmieleski, 2016). Seligman and Csikszentmihalyi (2000) initially started the arena of positive psychology generally by identifying the concepts of optimism, and hope. Luthan (2002) examined the influence of positive psychology at workplace settings. In this way, they release unique ways to explore the idea of positive psychology in the context of workplace settings (Wright, Gardner, & Moynihan, 2003).

Positive organizational behavior (POB) denotes to the research study and bring positive capabilities of individuals/students to the workplace settings and cognitive aspects as well that can be operationalized, radical, and manage effectively to increased performance of organizations (Luthans, 2002). Basically, psychological capital comprises four further concepts are Hope, self-efficacy, optimism, and resilience (Luthans, Youssef, & Avolio, 2015; Luthans & Youssef-Morgan, 2017). The four dimensions of psychological capital have a common concept of positivity that is a 'positive assessment of conditions and likelihood for achievement founded on inspired efforts and determinations' (Luthans, Avolio, Avey, & Norman, 2007, Lajubin-Golub, Petricevic, & Daria, 2019). By combining all of the four dimensions or propositional states are combined as psychological capital. Psychological capital mentions the positive mental and emotional features of individuals/student's growth and includes four uniqueness which are discussed below:

### 2.4.1 Hope

An emotional condition and optimistic approach regarding future success are termed as hope. Nonetheless, hope incline to propose individual support, and act as a driver to accomplish goals and aims, smoothen the ways to complete

plans that lead towards the achievement of goals and objectives (Snyder, Irving, & Anderson, 1991). Individuals that are high on trait hope can find hundreds of ways that can act as a guide towards the accomplishment of their preferred goals and objectives irrespective of the prevailing situations (Luthans, & Morgan, 2017). Snyder et al., (2002) in their research study suggested that hope is the greatest medicine in tough situations. People high on hope can best deal with complicated circumstances.

### **2.4.2 Self-Efficacy**

Self-efficacy brings confidence in a person for his own abilities. Self-efficacy has been mainly investigated in past literature and after the appearance of positive psychology comes under its umbrella. Self-efficacy is state type personality as opposed to traits personality. In comparison to dispositional factors and other reliable performance predictors (e.g. IQ or aptitude), self-efficacy is flexible and can be established in individuals/students throughout the lives (Bandura, 1997). High self-efficacious people foster positive emotions and strong motivational states (Perdue, Reardon, & Peterson, 2000; Waters, & Sun, 2016). Self-efficacy makes people confident. Moreover, engagement in certain forms of activities and like to deal with challenges (Fredrickson, 2001). Self-efficacy is a state in which individuals perceive that can carry out their job based on their abilities and can satisfy the expectations from them in a particular situation (Bandura, 1982).

Self-efficacy works like fuel for enhancing the motivation of employees, boosting their confidence, and makes their cognitive resources so strong that are less upset by any type of adverse situation (Stajkovic, & Luthans, 1998).

### **2.4.3 Optimism**

Thirdly, optimism is one of the main characteristics of psychological capital. Optimism can be defined as positive thinking about the future i.e. looking at each and every event in a positive way and always believe that good things will occur in the future (Carver, Scheier, Miller, & Fulford, 2009), and an optimistic style

about the explanation that brings positive vibes into life and eliminates negative vibes (Perevolotsky, & Seligman, 1998). Optimism is essential to uphold positive anticipations about achievement.

Optimists are individuals who look forward to something positive. Even in hard events, optimists have positive feelings and high expectations for being successful in the future (Youssef, Morgan, & Dahms, 2017). Initially, the concept of optimism is often based on attribution theory; therefore optimism develops positive attribution in an individual. They are greatly emphasized on their own self-development rather than on blaming others' aspects. They positively judge others and always tend to see good in others. In that sense, an optimist employee views organizational policies and practices optimistically.

#### **2.4.4 Resilience**

Lastly, resilience is another characteristic of psychological capital. It is 'the capability to recover or recoil from bad events of life, intense struggling conditions, disappointment and also good circumstances, development and a higher level of responsibility' (Luthans, 2002). Resilient people draw on their intimate, communal, and emotional assets, continuously organizing them in the direction of the successful version of ways and procedures that one may overwhelm difficulties or risky situations (Masten, Cutuli, Herbers, & Reed, 2009).

In organizations, employees have to face hard and difficult challenges so resilience plays a great role in these situations. Nevertheless, resilient employees are likely to handle abusive supervisors /managers. For this, resilience is the capacity of an employee that assists in regaining the energies. The employee can bounce back after failures. Luthans (2002) term resilience as the individual ability to deal with difficult situation, managing uncertainty, resolving conflicts and regaining of psychological resources after failure. Masten and Reed (2002) identify that resilient employees are likely to adapt to organizational changes. The contextual factor-like workplace climate on leadership characteristics promotes employee engagement at the workplace. Along with this dispositional factors also play an important role

in deciding employees' willingness to show energy and dedication at the workplace (Kirrane, Lennon, O'Connor, & Fu, 2016).

Psychological capital is one of the important factors that can trigger the intrinsic motivation of employees. Those employees who have high Psycap are more self-efficacious, have a strong will, and are well determined (Lajubin-Golub, Petricevic, & Daria, 2019). High Psycap individuals are recipients, they are not much affected by failures, and they have bouncing back ability. The resource their energies are irrespective of all hardness. High Psycap individuals are optimistic about their work more than their formal job requirements.

Psychological capital resources can contribute to reducing the level of cyberloafing in numerous ways. Firstly, university students that cognitively appraise their circumstances and the likelihood of achievement more confidently and uphold an optimistic viewpoint (optimism) are more expected to get interested to capitalize the exertion and reduce the level of cyberloafing. Individuals/students who believe in their own capabilities (efficacy) and are affirmed to be succeeded (hope agency), they are more likely to exhibit lower cyberloafing, and they have the ability to decrease the level of academic procrastination (Youssef & Luthans, 2013; Luthans, et al., 2015), and these all are essential for good performance of the students.

Secondly, students who are high on psychological capital have the capabilities to establish a broader range of solutions and approaches to overcome difficulties (hope) and to come back to the previous good conditions and get lessons from hindrances (resilience) as in the case of covid 19 pandemics in the current decade of the twenty-first century (Kirrane, Lennon, O'Connor, & Fu, 2016). Having a more optimistic approach permits these individuals/students to have an extended viewpoint and having a wider group of physical assets (e.g. exercise, healthy diet, adequate sleep), social assets (e.g. asking for help from the lecturers and classmates), and emotional assets that can help them (Kirrane, Lennon, O'Connor, & Fu, 2016). Such students are also hopeful of having strong willpower, way power, and desired goals. All these characteristics of students enhance their engagement in their academic activities and increasing their energy level, their dedication and accordingly reducing the level of cyberloafing. High Psycap along with high cognitive absorption will reduce the level of cyberloafing of students.

## 2.5 Hypothesis Development

### 2.5.1 Cognitive Absorption and Academic Procrastination

Numerous hypothetical and experiential motives are available to suppose that higher of cognitive absorption levels can be related to academic procrastination. Tellegen (1981) in his research study suggested that those individuals/students who are high on cognitive absorption have an experimental mentality and those individuals/students who are low on cognitive absorption are more intended to have an influential/instrumental mind-set.

Cognitive absorption being a deep commitment situation while using the the internet and technological devices (Agarwal & Karahanna, 2000; Kocak Usluel & Kurt Vural, 2009) affects students in a negative way. The case of deep commitment is communicated as the condition of concentrating time, inquisitiveness, desire, interest, control, and consideration on something. As per the the theory of planned behavior (Ajzen, 2011) when the attitudes of students towards the use of technology comes under their perceived behavior control as the level of the internet resources and smartphones increases among them it affects their studies and other life activities them (Conner & Armitage, 1998). They become cognitively involved in the use of technology so much and procrastinate in their academic activities (Sirois, 2014, Durak, 2020). Consequently, it is supposed that the level of cognitive absorption will affect students' use of the internet and technological devices out of purpose, and procrastination behavior among students increases. Therefore it can be hypothesized that:

**Hypothesis 1:** Cognitive absorption significantly and positively impact students' academic procrastination behavior.

### 2.5.2 Cognitive Absorption and Cyberloafing

The theory of planned behavior can be used to explain the behavior of individuals/students. It suggested that enactment of a behavior rest on individuals'/students' real behavioral control i.e., their capability to execute a behavior.

The execution of behavior becomes high when the chances and assets essential to execute an act also becomes high (Barnes, Pressey, & Scornavacca, 2019). The chances and assets can be related to available time, required money, possession of skills, and collaboration of others, etc. (Ajzen, 2011). Accordingly, as the availability of the internet resources and smartphones are increasing the degree of involvement in cyberloafing among students also increasing.

In accordance with the the theory of planned behavior (Ajzen, 2011), intentions and affecting responses for example emotion, pleasure, routine practices, need for satisfaction, and high commitment have been recognized as essential predictors of individuals'/students' beliefs, behaviors, and consequences (Conner & Armitage, 1998, Ajzen, 2011) The intentions of students strongly contribute to the continuous use of Social Network Sites i.e. cyberloafing because it gives them enjoyment and it is under the control of them (Agarwal & Karahannal, 2000; Venkatesh, 1999).

This can be explained further in line with the perceived behavior control principle of the the theory of planned behavior (Ajzen, 2011). Perceived behavioral control becomes an imprecise estimate of actual action control when there is limited amount of information available with the individuals/students regarding the behavior or action, or when individual/students are unexperienced of the elements the prevailing situation (Conner & Armitage, 1998). The current study build the relationships in the light of this principle. Students having little information about the adverse effects of cyberloafing are cognitively involved in cyberloafing behaviors.

According to the research study of Nakamura and Csikszentmihalyi (2002) what to pay attention to, how intensely and for how long, are choices that will determine the content of behavior. Because cyberloafing being an online setting fill out the social spaces in individuals'/students' lives and provide them with non-stop thrills and enjoyments (Turel & Serenko, 2012), and individuals/students being cognitively absorbed during the usage of social media and have little information about the adverse effects of cyberloafing (Barnes, Pressey, & Scornavacca, 2019). According to TPB perceived behavioral control becomes an imprecise determinant of real behavioral control when there is a limited amount of information with

the individuals//students regarding the behavior, the students got involved in cyberloafing. Therefore it can be hypothesized that:

**Hypothesis 2:** Cognitive Absorption significantly and positively impact cyberloafing.

### 2.5.3 Cyberloafing and Academic Procrastination

Although digital learning activities are created by the use of the the internet and technological devices i.e. cyberloafing, cyberloafing has some negative consequences on educational settings and procedures (Wagner, Barnes, Lim, & Ferris, 2012), so cyberloafing has both advantages and disadvantages attached to it. Students cannot accomplish their educational achievements if they are involved in the usage of the the internet and technological devices to accomplish their peculiar needs rather completing their educational tasks and assignments during class hours (El Din, & Baddar, 2019). The non-stop use of the the internet and social media networks and text messaging during class hours negatively impact students (Junco, 2012). During class hours, students using their mobile phones and laptops for texting each other, demonstrating that the students are unaware of the detrimental impacts of such type of cyberloafing on their educational accomplishments (Tindell & Bohlander, 2012).

As per the the theory of planned Behavior (Ajzen, 2011) perceived behavioral control becomes an imprecise estimate of actual action control when there is a limited amount of information available with the individuals/students regarding the behavior or action, or when individual/students are unexperienced of the elements the prevailing situation, as in this case the students are having little information about the effects of cyberloafing they are willingly involved in cyberloafing even during class hours that results in the delaying of their assignments and projects related to study (El Din, & Baddar, 2019). As per the the theory of planned behavior (Conner & Armitage, 1998) as the mandatory opportunities and assets essential to execute that behavior of cyberloafing increase for the students, the

chances for the students to involve in cyberloafing increases accordingly that results in academic procrastination behavior of the students (Lin, 2009; Tamir & Mitchell, 2012; Durak, 2019). Therefore it can be hypothesized that:

**Hypothesis 3:** Cyberloafing significantly and positively impact academic procrastination.

#### 2.5.4 Mediation Role of Cyberloafing

In accordance with the the theory of planned behavior (Ajzen, 2011), intentions and affecting responses for example emotion, pleasure, routine practices, need for satisfaction, and high commitment have been recognized as essential predictors of individuals'/students' beliefs, behaviors, and consequences (Conner & Armitage, 1998, Ajzen, 2011) The intentions of students strongly contribute to the continuous use of Social Network Sites i.e. cyberloafing because it gives them enjoyment and it is under the control of them (Agarwal & Karahannal, 2000; Venkatesh, 1999).

Because cyberloafing being an online setting fill out the social spaces in individuals'/students' lives and provide them with non-stop thrills and enjoyments (Turel & Serenko, 2012), and individuals/students being cognitively absorbed during the usage of social media and have little information about the adverse effects of cyberloafing i.e. cyberloafing is a conceivable phenomenon (Lin, 2009; Tamir & Mitchell, 2012; Durak, 2019). That is why it may be suggested that individuals/students who are extremely involved in cyberloafing activities would be more inclined to delay their academic tasks and assignments i.e. academic procrastination (Wu, Mei, Liu, & C.Ugrin, 2020). Accordingly, the state of cognitive absorption may entail acts that result in cyberloafing that ultimately leads to academic procrastination (Ozcan, Gokcearslan, & Yuksel, 2017). This phenomenon can be explained through the lens of the the theory of planned behavior (Conner & Armitage, 1998). The theory of planned behavior states that the performance of a behavior rely on some degree on one's actual behavioral management (i.e., the action to execute a behavior) i.e. the willingness of students to use the the internet for non-study related purposes and the availability of the the internet (A.Jumaan, Hashim, & M.Al-Ghazali, 2020). As the required opportunities and resources to perform that

behavior of cyberloafing increase for the students, the chances for the students performing the behavior increases accordingly (Ajzen, 2011). Students being cognitively involved in cyberloafing are unaware of the fact that it is a plausible phenomenon (Durak, 2019). Thus, it might be claimed that individuals/students who are extremely involved in cyberloafing activities would be more inclined to delay their academic tasks and assignments i.e. academic procrastination (Durak, 2019). Therefore it can be hypothesized that:

**Hypothesis 4:** Cyberloafing significantly mediate the relationship between cognitive absorption and academic procrastination.

### 2.5.5 Moderating Role of Psychological Capital

Students' characteristics that affect their cyberloafing behavior can be dispositional-based, that is, comparatively everlasting individual/student features like personality (Vakola, Tsaousis, & Nikolaou, 2004), and it also can be state-based, which is, more temporary and circumstances-specific features like stress (Vakola & Nikolaou, 2005). Nonetheless, (Li, Gao, & Xu, 2020, Kirrane, Lennon, O'Connor, & Fu, 2016) argues that the cyberloafing behaviors of students can be changed by focusing on the state-based concepts.

This is a significant preview, predominantly since state features are more flexible, so interference can be done there through various techniques. Integrating state variables into the research study of cyberloafing behavior will provide more meaningful preview that how cyberloafing behaviors may be changed among students. One variable among many state-like variables that might moderate the impact of cognitive absorption on cyberloafing can be psychological capital, or simply PsyCap (Li, Gao, & Xu, 2020, Luthans, 2002). Psychological capital is an limitless emotional assets that might be adopted and established by individuals/students that might assist their individual and academic success (Kirrane, Lennon, O'Connor, & Fu, 2016, Luthans, Avey, Avolio, & Peterson, 2010). The current study proposed that if the students are high on PsyCap then he/she will not be so much involve in cyberloafing. That is PsyCap will reduce the positive relationship between cognitive absorption and cyberloafing. Hence it can be hypothesized that:

**Hypothesis 5:** Psychological Capital significantly moderate the relationship of cognitive absorption and cyberloafing.

## 2.6 Theoretical Framework

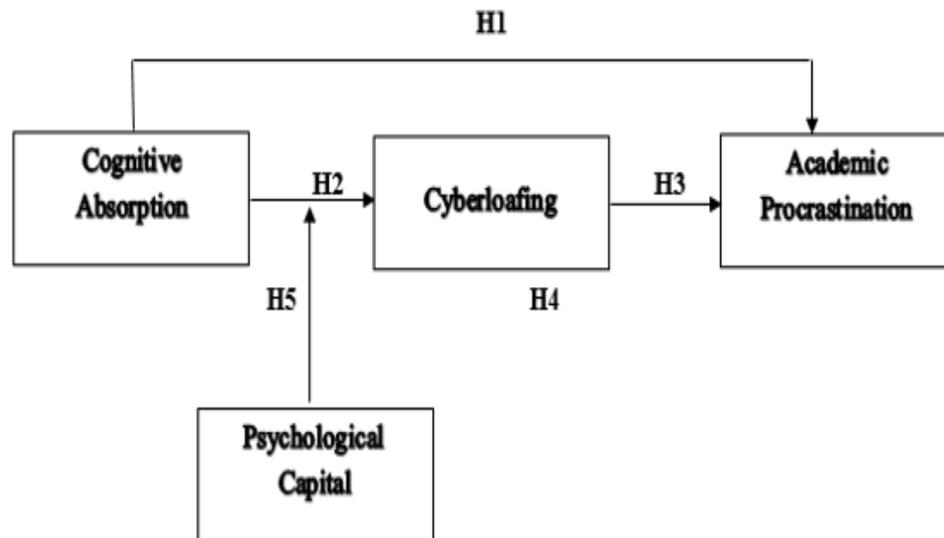


FIGURE 2.1: Theoretical Framework for the Impact of Cognitive Absorption on Academic Procrastination by Considering the Mediating Role of Cyberloafing and Moderating Role of Psychological Capital

## 2.7 Research Hypotheses

**Hypothesis 1:** Cognitive absorption significantly and positively impacts students' academic procrastination behavior.

**Hypothesis 2:** Cognitive absorption significantly and positively impacts cyberloafing.

**Hypothesis 3:** Cyberloafing significantly and positively impacts students' academic procrastination.

**Hypothesis 4:** Cyberloafing significantly mediates the relationship between cognitive absorption and students' academic procrastination.

**Hypothesis 5:** Psychological capital significantly moderate the relationship of cognitive absorption and cyberloafing

# Chapter 3

## Research Methodology

The chapter of the study is about the methods that are used to complete the study. It is very important part of the study because it helps in identifying the validity and generalizability of the research study. There are some important aspects of the research study that must be considered by the researcher at the time of deciding about the methods through which the research should be conducted. In this chapter the summary of methods used and justifications of those methods are given. To support the methodology used for the research the detail of methodologies is also given in this chapter. The strategy adopted in this study is justified through the explanations.

### 3.1 Research Design

Research design is designed as the exhibition of circumstances for the collection of data and analysis in such a way that objective is to blend pertinence to the research aim with economy in procedure (Selltiz et al., 1960). For the current study, the researcher got support of quantitative research design by utilizing standardized techniques and tools. As it precipitates valuable data by moving predictable fact into numbers, which in more examined to discriminate linkage of, relationships, causes and effects.

### **3.1.1 Research Philosophy**

A study philosophy is a conviction about the technique in which data about a particular phenomenon is first collected then analyzed and then used for a specific purpose. The present study is based on philosophy of research. Different types of research philosophies are available that can be used while conducting the research. In present research positivism philosophy has been used. Positivism research is also known as scientific research.

In this type of research, the researcher is concerned with getting information which is objective to the study using scientific methods of research. Methods linked with scientific research pattern comprise experiments and surveys where quantitative data is the standard. This philosophy is useful in conducting reliable analysis of research area that has to be investigated. The hypotheses that are developed in this study are tested through the results obtained from the statistical analysis of the data collected from the respondents.

### **3.1.2 Research Approach**

The research approach has a very noteworthy role in examining the validity and generalizability of the investigation study. There are two kinds of research approach are discussed here i.e.

- Qualitative research
- Quantitative Research

One of these two approaches must be used. In exploratory research qualitative research approach is used. Research in social sciences area used qualitative approach in most cases. Various objects, items and events are explained by researcher in this type of approach. Moreover in this technique there is choice of various researcher examine his/her personal biasness during gathering and analyzing the data. Due to respect of this reason results becoming a distorted (Pride et al., 2008).

### **3.1.3 Unit of Analysis**

Unit of analysis can be described as “level of aggregation at which data is collected”. In this research the units of analysis is individual because this research is to find out the impact of cognitive absorption and cyberloafing on individual rather than organization as a whole.

## **3.2 Population**

The research sample of this study is students from education sector of Pakistan at university level within both private and public sectors as students were used as a sample by Durak (2019), Wu, Mei,& Ugrin, (2018) and Gokcearslan, Uluyol, & Sahin, (2018). The education sector is chosen for the current study by the researchers because academic procrastination and cyberloafing activities are very high among youth of the country that is the students of teen age and this age group belong to the university sector. And the current study tried to find the ways through which the level of cyberloafing among the students might be decreased by considering the moderating role of psychological capital.

## **3.3 Sample and Sampling Technique**

Sample is the representative of population. The process of selection of respondents by a researcher for his research study from population is called sampling (Leary, 2004). Likewise, in quantitative approach of research, the sampling objective is to attain a group of persons who largely represents an organization of individuals from whom the particular type of information is required. It has been recommended by Uma and Roger (2003) that in order to confirm reliability of sample selection for data collection, it is significant to concern on sampling design and method. It contains source via such sample is finalized for performing its reliability and right examination of population. There must be coherence among chosen standard for selection and non-selection of items in population.

Sampling has two types, one is probability sampling and the other is non-probability sampling. In the first technique i.e. probability sampling, every individual of a population has equal chance to be chosen as sample for a research study while in non-probability sampling technique it is already decided by the researcher which individual will be included in sample of required population. Both probability and non-probability technique has some pros and cons but the choice of sampling technique wholly depends upon the objectives of the research, type of the study and data type. Probability sampling technique is helpful and appropriate when all the information about required population is available for the researcher or else non-probability technique should be used for sampling.

The current research work used convenient sampling technique. As the information about number of universities is available on the internet according to which there are 188 total number of universities in Pakistan which includes both private and public sector universities but still there is no information given about the demographics of the students. Researcher has no knowledge about how to contact them as all of the educational institutions are closed due to covid-19 pandemic and researcher cannot visit the students personally. Also there is limited time and resources with the researcher and convenience sampling technique is preferable to be considered when there is time and funds issues (Cooper & Schindler, 2007).

## **3.4 Data Collection**

Data collection is very critical part to every kind of research. Results are drawn by analyzing the collected data. Collection of data from reliable resources ensures the reliability of study. The present study has met all the required parameters during collection of data. Data can be of two kinds:

### **3.4.1 Primary Data**

This is also known as first hand data. Primary data is collected during the research works and is used for the particular study. Primary data collected for a particular study cannot be used for any other research. However there are chances

of facing criticism regarding the reliability of the collected data because this data is completely collected by human beings and there are chances of biasness from respondent's side. In order to control the biasness issue reliability and validity tools are used (Aaker et al., 2007).

### **3.4.2 Secondary Data**

This type of data is already available in different forms. There is no aspect of exclusivity in this data. Personal biasness cannot be done in this type of data. Secondary data can be taken from past histories, media forums, books, journals, data bases etc.

Through primary data researcher can find recent information and it can be analyzed for required results (Saunders, Lewis, & Thronill, 2007). The current research is solely depending upon primary data collection method. Primary data can be collected through different means e.g. interviews, surveys, focus groups, informal discussions and observations. Current research is using survey method through questionnaires for data collections. Primary research has high effectiveness as it is easy to manage this data and it also serves as completely new source of gaining information (Sekaran & Bougie, 2010).

There are some difficulties in primary data collection as it is very costly and time consuming and participants are found with very difficulty. This is cross-sectional research, as all data is collected at one time.

## **3.5 Data Collection Procedure**

Data was gathered through online survey by using google forms from different university students based on reference by teachers, relatives and friends. In fact, without connections data collection is very difficult specifically in Pakistan. Therefore, to approach maximum respondents every possible effort was utilized. Requests were made to the respondents to be helpful while providing data.

Data was collected from university level students for all of the four variables of the current study. Almost 500 questionnaires were distributed among participants by

using personal email address of individual and whatsapp sources as due to covid-19 pandemic educational organizations are being stop working by government orders. As the scholars cannot visit them physically, so google online document was used as a technique to gather the data from the participants. Email ids and whatsapp numbers were obtained on reference based from teachers, relatives and friends with the free consent of respondents. Of these 500 questionnaires only 204 such questionnaires were obtained that were workable. So the response rate is 40.8

### **3.6 Handling of Received Questionnaires**

Careful examination was done for the received questionnaires. There were some questionnaires having some unanswered questions i.e. the respondents left some questions unanswered. Received questionnaires were concisely determined to check the missing data. The questionnaires received were having some issues of missing values means that there are some questions in a questionnaire that were not answered by the respondents. In the quantifiable investigation, an important characteristic is to grip on the missing data, because it creates some serious problems. One it establishes in numerical power of the data. Statistical power means statistical techniques analytical capacity to determine any significant influence in the observed data set (Roth & Switzer III, 1995).

Furthermore, missing data also affect the accuracy of estimated variables. Guidelines are existing in the literature for the handling of missing data. The most important techniques for missing data handling according to (Roth & Switzer III, 1995) are mean replacement, regression assertion and listwise omission. In mean replacement, the mean value is extracted for missing reply. In regression attribution, the regression equation is developed based on associated variables for assigning and estimating missing values. In listwise deletion, if there is any missing data, all this type of data firstly removed according to the participants. Various techniques have their pros and scams.

I talk about the listwise deletion approach it takes into attention that only participants should be original responses and scholars don't enter any other type of data

set but if there are small missing values then this technique reason loss of a large amount of data and effect the sampling method as well. The mean replacement method force on saving a large amount of data but the disadvantage is that it may affect the original connections that have been revealed by participants. Though, this issue can be mocked if the final collection in the questionnaire is missed or missing values are small. In respect of present research, based on questionnaires reviewed from the respondent and after stamping of the data it was understood that there are missing values. To handle missing values, a mean substitution approach was applied. The reason was in every questionnaire less than five items were missing.

## 3.7 Sample Characteristics

### 3.7.1 Gender

Gender is the major source to maintain gender equality. Subsequently, it is recognized as major factor of demographics. The purpose is to distinguishes between male and female in a given sample. In present investigation, it has been tried to create sure gender equality but still it has been seen that male teacher ratio is somewhat greater than female students are.

TABLE 3.1: Frequency by Gender

Gender	Frequency	Percentage
Male	107	52.5
Female	97	47.5
Total	204	100

The **Table 3.1** above depicts the information about gender. It can be seen concisely that more of the participants were male as compare to females. Of the total 52.5% were male and the remaining of 47.5% were female.

### 3.7.2 Age

TABLE 3.2: Frequency by Age

Age	Frequency	Percentage
16 to 20	14	6.9
21 to 25	91	44.6
26 to 30	84	41.2
31 to 35	9	4.4
35 above	6	2.9
Total	204	100

The **Table 3.2** gives the information about the age of the respondents. It can be seen that maximum numbers of respondents were from the age range of 21-25 i.e. 44.6 % and 91 in frequency. 41.2% respondents were from the category of 26-30 i.e. 84 respondents lie in this category. 6.9 % respondents belong to the age group of 16-20 i.e. 14 respondents in frequency numbers. 4.4 % respondents were from the age range of 31-35 i.e. 9 in frequency. 2.9 % respondents were from the age range of 35 above i.e. 6 in frequency.

### 3.7.3 Qualification

Education is an important component that confers towards the success and prosperity of the whole country and to compete globally as well. That is why after gender, the education is an important constituent of demographics.

TABLE 3.3: Frequency by Qualification

Qualification	Frequency	Percentage
Bachelors	94	46.1
Masters	41	20.1
MS/Mphil	65	31.9
PhD	4	2
Total	204	100

**Table 3.3** gives the information about qualification of the respondents. As examined by the table majority of the participants had qualified the degree of bachelors comprising 46.1 % of the total sample i.e. 94 in frequency. 20.1% had education of masters i.e. 41 in frequency numbers. 31.9% had degrees of MS and Mphil i.e. 65 in frequency numbers while only 2 % had PhD degrees i.e. 4 in numbers.

### 3.7.4 Name of University Currently Studying

Under this heading the information about name of universities in which students are studying is discussed.

TABLE 3.4: Name of the University

Name of the University	Frequency	Percentage
Capital University of Science & Technology	62	30.4
National University of Science & Technology	11	5.4
Comsat University	20	9.8
Fatima Jinnah Women University	17	8.3
Quaid-e-Azam University	24	11.8
National University of Modern Languages	8	3.9
ARID University	14	6.9
Kohat University of Science & Technology	19	9.3
University of Engineering & Technology	19	9.3
University of Karachi	8	3.9
Ripha International University	2	1
Total	204	100

N=204 The Table: 3.4 shows that majority of the students belong to capital university of science and technology i.e. 30.4% and 62 in number. 11.8 % of

the respondents belong to Quaid-e-Azam university i.e.24 in number.5.4 % of the respondents belong to National University of Science and technology i.e. 11 in frequency. 9.8 % of the respondents belong to Comsat University i.e. 20 in frequency. 8.3% of the respondents belong to Fatima Jinnah Women University i.e. 17 in number.

3.9% of the respondents belong to National University of Modern Languages i.e. 8 in frequency. 6.9 % of the respondents belong to ARID University i.e. 14 in frequency. 9.3 % of the respondents belong to Kohat University of Science and Technology i.e. 19 in frequency. 9.3 % of the respondents belong to University of Engineering and Technology i.e. 19 in frequency. 3.9 % of the respondents belong to University of Karachi i.e. 8 in frequency. 1 % of the respondents belong to Ripha International University i.e. 2 in frequency.

## **3.8 Instrumentation**

### **3.8.1 Cognitive Absorption**

The scale for cognitive absorption was adopted from the research study of (Agarwal & Karahanna, 2000). The scale has 14 items. The sample questions of the study are: Time appears to go by very quickly when I am using the Web. Sometimes I lose track of time when I am using the Web. Time flies when I am using the Web. All of the items' responses were collected against five point likert scale. The Cronbach alpha for cognitive absorption is .754.

### **3.8.2 Cyberloafing**

The scale for cyberloafing was adopted from the study of (Blanchard & Henle, 2007). It comprises of twenty two items. The sample items from the scale are as follows: I checked non-work related email during class hours. I sent non-work related email during class hours. I visited general news sites during class hours. I visited stock or investment related web sites during class hours. All of the

responses of the scale were measured against five point likert-scale. The Cronbach alpha for cyberloafing is .698.

### 3.8.3 Academic Procrastination

The scale for academic procrastination was adopted from the research study conducted by (Yockey, 2016). The scale comprises of five items. Sample items from the scale are as follows: I put off projects until the last minute. I know I should work on schoolwork, but I just don't do it. I get distracted by other, more fun, things when I am supposed to work on schoolwork. All of the responses were measured against five point likert scale. The Cronbach alpha for academic procrastination is .733.

### 3.8.4 Psychological Capital

The scale for psychological capital was adopted from the research study conducted by (Luthans, Avolio, Avey, & Norman, 2007). The scale comprises of twenty four items. Sample items from the scale are as follow: I feel confident analyzing a long-term problem to and its solution. I feel confident in representing my work area in meetings with management. I feel confident contributing to discussions about the institution's strategy. I feel confident helping to set targets/ goals in my work area. All of the items were measured against five point Likert scale. The Cronbach alpha for psychological capital is .810.

TABLE 3.5: Scales

Variable	Number of Items	Authors
Cognitive Absorption	14	(Agarwal & Karahanna, 2000)
Cyberloafing	22	(Blanchard & Henle, 2007)
Academic Procrastination	5	(Yockey, 2016)
Psychological Capital	24	(Luthans, Avolio, Avey, & Norman, 2007)

### **3.8.5 Pilot Testing**

A trial test arranged before going to perform main tests, is known as pilot testing. According to (Van Teijlingen and Hundley, 2001), it is predominantly directed to test the viability of the instruments used in current research. It means that preceding to directing pilot study the researcher must be vibrant about research topic, research questions and hypotheses and of course research instruments and techniques to reconsider them to gain an idea about how they will virtually perform and if desirable it can be adapted accordingly.

Pilot testing is vigorous to test the practicality of a questionnaire as this provide valuable information about significant irregularities in questionnaire design. (Welman and Kruger, 1999) also unveiled the significance of pilot testing as it aids in demonstrating ambiguous questionnaire items and supports in revealing inadequacies in measurement procedures. It strengthen unsuitability and suitability of recommended instruments, processes and approaches and delivers advance carefulness to change them as desirable. It helps in avoiding great amount of money, time and effort, which can be dissolute by using such questionnaire that constructs poor and uncertain responses and results.

Before going to do anything on considerable scale, it would be operative and practical method to arrange pilot testing, as it will avoid numerous risks connected to obliteration of time and resources. So, pilot testing of about 40 questionnaires were directed for the purpose to validate, if results are in line and acquainted with the recommended hypotheses or not. After directing pilot testing it was inferred that there was no significant issue in the studying variables and the measurement scales were completely reliable as the threshold value for Cronbach alpha is 0.6 and all the scales have match the threshold value.

### **3.8.6 Reliability of Pilot Testing**

### **3.8.7 Reliability of the Scales**

Reliability analysis is used to check the internal consistency of the instrument used for data collection. Cronbach's alpha's values were figure out for all the variables

TABLE 3.6: Reliability of Pilot Testing

Variable	No. of Items	Cronbach's Alpha
Academic Procrastination	5	0.904
Cognitive Absorption	14	0.774
Cyberloafing	22	0.944
Psychological Capital	24	0.884

to check the internal consistency. The acceptable range for value of Alpha is  $>.60$  (Hair et al., 2006). The variables along with its number of items and value of cronbach's alpha are given in table no.3.6.

TABLE 3.7: Reliability of Scales

Variable	No. of Items	Cronbach's Alpha
Cognitive Absorption	14	0.754
Cyberloafing	22	0.698
Academic Procrastination	5	0.733
Psychological Capital	24	0.81

N=204 The acceptable range for value of Alpha is  $>.60$  (Hair et al., 2006). From the results shown above in table 3.7 it can be seen that the Cronbach's alpha value for Cognitive Absorption is .754. The Cronbach's alpha value for cyberloafing is .698 and it is within the range. The Cronbach's alpha value for academic procrastination is .733 and Cronbach's alpha value for psychological capital is .810.

### 3.8.8 Data Analysis

A source of interpreting, reasoning and understanding the data or information that have been collected through questionnaire is known as data analysis (Zikmund, 2003). Therefore, the data which has been collected through questionnaire were analyzed statistically by using software Package for Social Science (SPSS 20). Furthermore, it also enables the researcher to represent the data or information better through graphical presentation (i.e. bar chart and histogram).

This software is also used to test the relationship between the proposed independent variable and dependent variable using methods such as Correlation analysis and Regression analysis.

# Chapter 4

## Analysis and Results

### 4.1 Descriptive Analysis

Descriptive analysis of all variables included in the present investigation such as cognitive absorption, cyberloafing, academic procrastination and psychological capital are determined in the table below. The means, minimum and maximum values and standard deviations of all variables are given in the **Table 4.1**. The mean value tells about the central tendency of the responses, it describes where the overall responses lie while standard deviation helps us to present the deviation from average point. It actually tells us about the outliers, as an outlier can affect the data. In depth the mean values are used to explore either the responses of participants are towards agreement side or disagreement side with the questions. If the mean values are higher than 3 then it shows that respondents are more inclined toward agreement side and if the mean values are lower than 3 then it examines that participants are more inclined towards disagreement side.

TABLE 4.1: Descriptive Statistics

Variable	Minimum	Maximum	Mean	St. Deviation
Cognitive Absorption	1	4.29	3.2444	0.5958
Cyberloafing	1.14	4	3.0943	0.44675
Academic Procrastination	1	4.4	3.101	0.81911
Psychological Capital	2.38	4.83	3.2996	0.49408

N= 204

## 4.2 Normality Analysis

Normality analysis is done to check the normality of the population sample. The acceptable range for skewness is -2 to +2 and for kurtosis is between -3 and +3 (Trochim & Donnelly, 2006; Field, 2000 & 2009; Gravetter & Wallnau, 2014) for normal data. The values for all the variables of current research are in acceptable range as shown below in table 4.2. The acceptable values of skewness and kurtosis show that the data is normal, skewness tells about symmetry of data while kurtosis tells about normal distribution.

TABLE 4.2: Normality Analysis

Variable	Skewness	Kurtosis
Cognitive Absorption	-1.299	2.819
Cyberloafing	-0.785	1.618
Academic Procrastination	-0.694	0.358
Psychological Capital	0.713	0.925

N=204

## 4.3 Correlation Analysis

The correlation results show whether and how strongly pairs of variables are related. A correlation is a single number that describes the degree of relationship between two variables. The Pearson product-moment correlation is used to determine the relationship between the variables. The acceptable range for correlation is between -1 to +1. According to Cohen, West and Aiken (2014) the value of correlation is 0.10 to 0.29 represents weak/ smaller correlation, value of correlation between range of 0.30 to 0.49 represents moderate correlation and if correlation is between range of 0.5 to 0.8 then it represents strong correlation. While if the value of correlation exceeds 0.80 then it shows the error of multi- collinearity.

TABLE 4.3: Correlation Analysis

Sr. No.	Variables	1	2	3	4
1	Cognitive Absorption	1			
2	Cyberloafing	.671**	1		
3	Academic Procrastination	.258**	.504**	1	
4	Psychological Capital	-.285**	-.296**	-.153*	1

Correlation is significant at 0.05 level\* (two tailed) Correlation is significant at 0.01 level\*\* (two tailed) The above table of Pearson Correlation shows that the correlation value between cognitive absorption and cyberloafing is .671, which is positive and strong value. The positive sign shows that with increase in cognitive absorption the cyberloafing level will also be increased. The correlation between cognitive absorption and academic procrastination is .258 which is positive and moderate value. It shows that cognitive absorption is significantly correlated with academic procrastination. The positive sign indicates that with increase in cognitive absorption the academic procrastination among students will also be increased. The value of correlation between cyberloafing and academic procrastination .504 which is positive and strong value. The positive sign shows that with increase in cyberloafing, academic procrastination level will also be increased. The correlation value between psychological capital and cognitive absorption is -.285 which is negative and weak value. The negative sign indicates that there is negative relationship between these variables. As psychological capital increases the cognitive absorption level will be decreases. The value of correlation between psychological capital and cyberloafing is-.296 which is negative and weak value. The negative sign indicates that with increase in psychological capital the level of cyberloafing will be decreased. The value of correlation between psychological capital and academic procrastination is -.153 which is negative and weak value. The negative sign shows that with increase in psychological capital the level of academic procrastination will be decreased.

The p-value is significance value, if p-value is smaller or equal to 0.01 then correlation is at 1% meaning that there is 1% chance of error in results, while if p-value

is smaller or equal to 0.05 then it means the correlation is accepted at 5% meaning that there is 5% chance of error in the results of this study. The above table shows that all the correlation values are significant on 1% chance of error.

## 4.4 Regression Analysis

Correlation analysis was done to investigate about the presence of relationships among variables. Correlation analysis only gives information about the presence of association among variables but it does not provide any information regarding the cause and effect relationship among variables. For that reason, regression analysis was conducted to investigate the cause and effect relationships among variables. Regression analysis is run to confirm the dependence of one variable over the other variable.

There are two types of regression, one of which is simple regression or linear regression and the other is multiple regression. Simple regression is done when the variables under investigation are two and the intention is to find cause and effect relationship while multiple regression is run when there are more than two variables for investigation in the study, e.g. in the case of mediation and moderation.

### 4.4.1 Linear Regression

Hypothesis 1 suggested that cognitive absorption positively and significantly impacts academic procrastination. To investigate this hypothesis, linear regression was run and the results obtained from linear regression are displayed in **Table 4.4**. The results give clear support for the acceptance of the hypothesis 1. Results depicts that cognitive absorption is positively and significantly linked with academic procrastination as shown by the regression coefficient ( $\beta = .355$ ,  $p < 0.000$ ). Adding up to that, the value of ( $R^2 = .067$ ) suggested that cognitive absorption brings 6.7% variations in academic procrastination. Therefore hypothesis 1 is supported.

TABLE 4.4: Linear Regression

<b>Academic Procrastination</b>			
<b>Predictor</b>	$\beta$	$R^2$	<b>Sig.</b>
Cognitive Absorption	.355***	0.067	0.000
Cyberloafing	.923***	0.254	0.000

Hypothesis 3 suggested that cyberloafing positively and significantly impacts academic procrastination. To investigate this hypothesis, linear regression was run and the results obtained from linear regression are displayed in **Table 4.4**. The results give clear support for the acceptance of the hypothesis 1. Results depicts that cyberloafing is positively and significantly linked with academic procrastination as shown by the regression coefficient ( $\beta=.923$ ,  $p < 0.000$ ). Adding up to that, the value of ( $R^2=.254$ ) suggested that cyberloafing brings 25% variations in academic procrastination. Therefore hypothesis 3 is supported.

TABLE 4.5: Linear Regression

<b>Cyberloafing</b>			
<b>Predictor</b>	$\beta$	$R^2$	<b>Sig.</b>
Cognitive Absorption	.503***	0.451	0.000

Hypothesis 2 suggested that cognitive absorption positively and significantly impacts cyberloafing. To investigate this hypothesis, linear regression was run and the results obtained from linear regression are displayed in **Table 4.5**. The results give clear support for the acceptance of the hypothesis 1. Results depicts that cognitive absorption is positively and significantly linked with cyberloafing as shown by the regression coefficient ( $\beta=.503$ ,  $p < 0.000$ ). Adding up to that, the value of ( $R^2=.451$ ) suggested that cognitive absorption brings 45% variations in cyberloafing. Therefore hypothesis 2 is supported.

#### 4.4.2 Multiple Regressions

For the present study, the researcher used Preacher and Hayes (2013) macros to investigate the mediation and moderation hypotheses. To examine the mediating role of cyberloafing between cognitive absorption and academic procrastination

mediation analysis was carried out. Moreover, to explore the moderating role of psychological capital on the relationship of cognitive absorption and cyberloafing, moderation analysis was carried out. Therefore model no. 7 was used to examine the mediation and moderation hypotheses.

TABLE 4.6: Mediation

IV	Effect of IV on M	Effect of M on DV	Direct Effect	Total Effect	Bootstrapping Results for Indirect Effect	
					LLCI 95%	ULCI 95%
Cognitive Absorption	1.4914	1.1017	-0.1994	0.3552	0.35	0.9006

*N=204* IV=independent variable, M=Mediator, DV=Dependent Variable, LLCI= Lower level confidence interval, ULCI=Upper level confidence interval,  $p<0.000^{***}$ .

Hypothesis No. 4 suggested that cyberloafing will mediate the relationship between cognitive absorption and academic procrastination. The results obtained from mediation analysis are shown in table no. 4.6. It can be seen from the results that the mediating role of cyberloafing finds to be significant. **Table 4.6** suggests that bootstrapping results for indirect effect of cognitive absorption and academic procrastination through mediator cyberloafing has the lower level confidence interval of .3500 and upper level confidence interval of .9006. As the signs of upper level confidence interval and lower level confidence interval are positive and no zero contains in between them. Therefore, it can be concluded from the results that mediation hypothesis is accepted. Therefore hypothesis no. 4 is supported, that cyberloafing mediates the relationship between cognitive absorption and academic procrastination.

TABLE 4.7: Moderation

Variable	B	SE	T	P	LLCI 95%	ULCI 95%
Int_term	-0.2969	0.078	-3.827	0.0002	-0.4499	-0.1439

Hypothesis no. 5 states psychological capital moderates the relationship between Cognitive absorption and cyberloafing in such a way that relationship will be weaker among the individuals high on psychological capital and will be stronger for those low on psychological capital. **Table 4.7** provides the results for moderation analysis hypothesis no. 4. It provides justification for the acceptance of moderation hypothesis. The reason behind this is that interaction term of cognitive absorption and psychological capital” moderates on the relationship of cognitive absorption and psychological capital” has the lower level confidence interval and upper level confidence interval of  $-.4499$  and  $-.1439$ . As it can be seen that both the upper level confidence interval and lower level confidence interval have negative sign and contains no zero in between them which means that the hypothesis no.5 is accepted. Moreover, psychological capital moderates the relationship between workplace bullying and cyberloafing in such a way that relationship will be weaker among the individuals high on psychological capital and will be stronger for those low on psychological capital. Hence, it can be concluded that hypothesis no. 5 is supported for moderation. To provide more indication for the moderating role of psychological capital, Jerney Dawson tool was used to plot a graph as indicated in fig. 4.1. The slop of the interaction between cognitive absorption and cyberloafing can be seen in the figure. It can be seen that the relationship between cognitive absorption and cyberloafing is stronger for students with low psychological capital and vice versa.

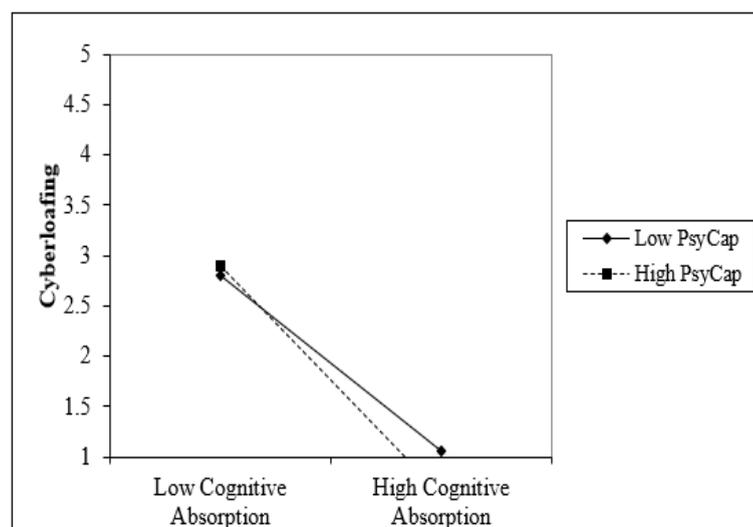


FIGURE 4.1: Interaction Graph

## 4.5 Summary of Hypotheses

TABLE 4.8: Hypotheses Summary

<b>Hypotheses</b>		
<b>H1</b>	Cognitive absorption significantly and positively impacts students' academic procrastination behavior.	<b>Accepted</b>
<b>H2</b>	Cognitive Absorption significantly and positively impacts cyberloafing.	<b>Accepted</b>
<b>H3</b>	Cyberloafing significantly and positively impacts academic procrastination.	<b>Accepted</b>
<b>H4</b>	Cyberloafing significantly mediates the relationship between cognitive absorption and academic procrastination.	<b>Accepted</b>
<b>H5</b>	Psychological Capital significantly moderate the relationship of cognitive absorption and cyberloafing.	<b>Accepted</b>

# Chapter 5

## Discussion and Conclusion

This chapter comprises of details of relationship of hypotheses and also their reasoning of acceptance and rejection, and also discusses the theoretical implication, practical implication, strengths and weaknesses of the investigation and future research directions.

### 5.1 Discussion

The main emphasis of this research was to study the relationship between cognitive absorption and academic procrastination among the university level students within the contextual settings of Pakistan. The research also studied the mediating role of cyberloafing i.e. the use of technological devices and the internet by the students during the class hours, which is the very problem of the students of this era. To overcome the cyberloafing problem which is affecting the academic performances of students due to their procrastinating behavior the current study involve the moderating role of psychological capital between cognitive absorption and cyberloafing. The study was conducted on the university level students of various universities of Pakistan.

The results of the study suggests that cognitive absorption has significant impact on academic procrastination level of university level students. There is a positive relationship between cognitive absorption and cyberloafing level of students which further have positive association with academic procrastination level of students

of different universities. Therefore, H1, H2, H3 and H4 are accepted developing a relationship between cognitive absorption and academic procrastination level of students of universities through the mediating role of cyberloafing. This implies that cognitive absorption enhances students' attitude towards the usage of the internet and technological devices and in result the students will give more time to the internet and technological devices i.e. cyberloafing which ultimately results in the delay of their educational tasks and activities which we call it as academic procrastination.

The current study inculcated variable of psychological capital as a moderator. The data analysis on the variable in the contextual settings of Pakistan proves that psychological capital reduces the positive relationship between cognitive absorption and cyberloafing behavior among university level students.

### **5.1.1 Hypothesis 1: Cognitive Absorption Significantly and Positively Impacts Students' Academic Procrastination Behavior**

Hypothesis no.1 states that cognitive absorption positively and significantly impacts academic procrastination. To investigate this hypothesis data were collected from the students of different universities and analysis was done by using SPSS. The results from the findings of this specific hypothesis were found to be significant and thus accepted and the findings of the analysis suggest that cognitive absorption positively and significantly impacts academic procrastination level among university-level students. The findings of the study are in accordance with the theory of planned behavior. The results of the first hypothesis of the study are well supported through data collection. As it was hypothesized that cognitive absorption will positively be related to the academic procrastination behavior of students. The results of the hypothesis ( $\beta=0.355$ ,  $p=0.00$ ) proved the existence of a significant positive relationship between cognitive absorption and academic procrastination. The co-efficient is 0.355 which demonstrates that if there is 1% unit change in cognitive absorption then there will be 35.5% units changes of students showing procrastination behavior.

The results of the current study are lined with (Sirois, 2014, Durak, 2020) and found a positive and significant relationship between cognitive absorption and academic procrastination which means that as per the theory of planned behavior when the attitudes of students towards the use of technology come under their perceived behavior control as the level of the internet resources and smartphones increases among them it affects their studies and other life activities of them (Conner & Armitage, 1998). They become cognitively involved in the use of technology so much and procrastinate in their academic activities (Sirois, 2014) (Durak, 2020). Consequently, it is supposed that the level of cognitive absorption will affect students use of the internet and technological devices out of purpose, and procrastination behavior among students increases.

### **5.1.2 Hypothesis 2: Cognitive Absorption Significantly and Positively Impacts Cyberloafing**

Hypothesis no.2 states that cognitive absorption positively and significantly impacts cyberloafing. To investigate this hypothesis data were collected from the students of different universities and analysis was done by using SPSS. The results from the findings of this specific hypothesis were found to be significant and thus accepted and the findings of the analysis suggest that cognitive absorption positively and significantly impacts cyberloafing level among university-level students. The findings of the study are in accordance with the theory of planned behavior. The results of the second hypothesis of the study are well supported through data collection. As it was hypothesized that cognitive absorption will positively be related to the cyberloafing behavior of students. The results of the hypothesis ( $\beta = 0.923$ ,  $R^2=0.254$  %,  $p = 0.00$ ) proved the existence of a significant positive relationship between cognitive absorption and cyberloafing. The value of  $R^2$  is 0.254 which demonstrates that if there is 1% unit change in cognitive absorption then there is a likelihood that students will show 25.4% of cyberloafing behavior. The results of the second hypothesis of the study are also well supported through data collection. As it was hypothesized that cognitive absorption positively and significantly impacts cyberloafing behavior of students of university level.

Results of the current study aligned with results of a study of (Durak, 2020, Ajzen, 2011, Turel & Serenko, 2012) and found a positive association between cognitive absorption and students' attitude towards the usage of cyberloafing i.e. the use of the internet and technological devices during class hours.

According to the research study of Nakamura and Csikszentmihalyi (2002) "what to pay attention to, how intensely and for how long, are choices that will determine the content of behavior". Because cyberloafing being an online setting fill out the social spaces in individuals'/students' lives and provide them with non-stop thrills and enjoyments (Turel & Serenko, 2012), and individuals/students being cognitively absorbed during the usage of social media and having little information about the adverse effects of cyberloafing.

The results are also in-line with the theory of planned behavior. According to TPB perceived behavioral control becomes an imprecise determinant of real behavioral control when there is a limited amount of information with the individuals//students regarding the behavior, the students got involved in cyberloafing.

In accordance with the theory of planned behavior, intentions and affecting responses for example emotion, pleasure, routine practices, need for satisfaction, and high commitment has been recognized as essential predictors of individuals'/students' beliefs, behaviors, and consequences (Conner & Armitage, 1998) (Ajzen, 2011) The intentions of students strongly contribute to the continuous use of Social Network Sites i.e. cyberloafing because it gives them enjoyment and it is under the control of them (Agarwal & Karahannal, 2000; Venkatesh, 1999).

This can be explained further in line with the perceived behavior control principle of the theory of planned behavior. Perceived behavioral control becomes an imprecise estimate of actual action control when there is a limited amount of information available with the individuals/students regarding the behavior or action, or when individual/students are unexperienced of the elements of the prevailing situation (Conner & Armitage, 1998). The current study builds the relationships in the light of this principle. Students having little information about the adverse effects of cyberloafing are cognitively involved in cyberloafing behaviors.

### 5.1.3 Hypothesis 3: Cyberloafing Significantly Impacts and Positively Academic Procrastination

In Hypothesis 3 it was proposed that there is a positive association between students' cyberloafing level and academic procrastination. The results of the hypothesis ( $\beta = 0.503$ ,  $R^2=0.451$  %,  $p = 0.00$ ) proved the existence of a significant positive relationship between students' cyberloafing level and their academic procrastination behavior. The value indicates the significant level of relationship between students' cyberloafing level and their academic procrastination behavior. The value of  $R^2=0.451$  demonstrates that if there is 1% unit change in students' cyberloafing behavior then there is 45% chances of developing academic procrastination behavior.

The results of the third hypothesis of the study are also well supported through data collection. As it was hypothesized that the cyberloafing behavior of students will significantly and positively impact academic procrastination.

Students cannot accomplish their educational achievements if they are involved in the usage of the internet and technological devices to accomplish their peculiar needs rather completing their educational tasks and assignments during class hours. The non-stop use of the internet and social media networks and text messaging during class hours negatively impact students (Junco, 2012). During class hours, students using their mobile phones and laptops for texting each other, demonstrating that the students are unaware of the detrimental impacts of such type of cyberloafing on their educational accomplishments (Tindell & Bohlander, 2012).

The results are also in line with the theory of planned behavior. As per the theory of planned Behavior perceived behavioral control becomes an imprecise estimate of actual action control when there is a limited amount of information available with the individuals/students regarding the behavior or action, or when individual/students are unexperienced of the elements the prevailing situation, as in this case the students are having little information about the effects of cyberloafing they are willingly involved in cyberloafing even during class hours that results in

the delaying of their assignments and projects related to study. As per the theory of planned behavior as the mandatory opportunities and assets essential to execute that behavior of cyberloafing increase for the students, the chances for the students to involve in cyberloafing increases accordingly that results in the academic procrastination behavior of the students (Lin, 2009; Tamir & Mitchell, 2012; Durak, 2019).

#### **5.1.4 Hypothesis 4: Cyberloafing Significantly Mediates the Relationship between Cognitive Absorption and Academic Procrastination**

Hypothesis no.4 states that cyberloafing significantly mediates the relationship between cognitive absorption and academic procrastination. To investigate this hypothesis data were collected from the students of different universities and analysis was done by using Preacher and Hays macros (2013) SPSS. The results from the findings of this specific hypothesis were found to be significant and thus accepted and the findings of the analysis suggest that cyberloafing will significantly mediate the relationship between cognitive absorption and academic procrastination level among university-level students. The findings of the study are in accordance with the theory of planned behavior. The results of the first hypothesis of the study are well supported through data collection.

As it was hypothesized that cyberloafing significantly mediates the relationship between cognitive absorption and academic procrastination behavior of students. The results of the hypothesis proved the existence of a significantly mediating association of cyberloafing between cognitive absorption and academic procrastination as the upper-level confidence interval and lower level confidence interval have both the same signs thereby approving the acceptance of the mediation hypothesis.

The results of the study are in accordance with the theory of planned behavior. According to the theory of planned behavior, intentions and affecting responses for example emotion, pleasure, routine practices, need for satisfaction, and high commitment have been recognized as essential predictors of individuals'/students'

beliefs, behaviors, and consequences (Conner & Armitage, 1998) (Ajzen, 2011) The intentions of students strongly contribute to the continuous use of Social Network Sites i.e. cyberloafing because it gives them enjoyment and it is under the control of them (Agarwal & Karahannal, 2000; Venkatesh, 1999).

Because cyberloafing being an online setting fill out the social spaces in individuals'/students' lives and provide them with non-stop thrills and enjoyments (Turel & Serenko, 2012), and individuals/students being cognitively absorbed during the usage of social media and have little information about the adverse effects of cyberloafing i.e. cyberloafing is a conceivable phenomenon (Lin, 2009; Tamir & Mitchell, 2012; Durak, 2019). That is why it is suggested that individuals/students who are extremely involved in cyberloafing activities would be more inclined to delay their academic tasks and assignments i.e. academic procrastination. Accordingly, the state of cognitive absorption may entail acts that result in cyberloafing that ultimately leads to academic procrastination.

This phenomenon can be explained through the lens of the theory of planned behavior. The theory of planned behavior states that the performance of behavior depends to some degree on one's actual behavioral control (i.e., the ability to perform a behavior) i.e. the willingness of students to use the internet for non-study-related purposes and the availability of the internet. As the required opportunities and resources to perform that behavior of cyberloafing increase for the students, the chances for the students performing the behavior increases accordingly. Students being cognitively involved in cyberloafing are unaware of the fact that it is a plausible phenomenon (Durak, 2019).

### **5.1.5 Hypothesis 5: Psychological Capital Significantly Moderates the Relationship between Cognitive Absorption and Cyberloafing**

Hypothesis no.5 states that psychological capital significantly moderates the relationship between cognitive absorption and cyberloafing. To investigate this hypothesis data were collected from the students of different universities and analysis

was done by using Preacher and Hays macros (2013) SPSS. The results from the findings of this specific hypothesis were found to be significant and thus accepted and the findings of the analysis suggest that psychological capital significantly moderates the relationship of cognitive absorption and cyberloafing. The findings of the study are in accordance with the theory of planned behavior. The results of the first hypothesis of the study are well supported through data collection.

As it was hypothesized that Psychological Capital significantly moderates the relationship between cognitive absorption and cyberloafing. The results of the hypothesis proved the existence of a significant moderating role of psychological capital on the relationship between cognitive absorption and cyberloafing behavior among university-level students as the upper-level confidence interval and lower-level confidence interval have both the same signs thereby approving the acceptance of the mediation hypothesis.

Students' characteristics that affect their cyberloafing behavior can be dispositional-based, that is, comparatively everlasting individual/student features like personality (Vakola, Tsaousis, & Nikolaou, 2004), and it also can be state-based, which is, more temporary and circumstances-specific features like stress (Vakola & Nikolaou, 2005). Nonetheless, (Li, Gao, & Xu, 2020, Kirrane, Lennon, O'Connor, & Fu, 2016) argue that the cyberloafing behaviors of students can be changed by focusing on state-based concepts. This is a significant preview, predominantly since state features are more flexible, so interference can be done there through various techniques. Integrating state variables into the research study of cyberloafing behavior will provide more meaningful preview that how cyberloafing behaviors may be changed among students. One variable among many state-like variables that was suggested by the current study that might moderate the impact of cognitive absorption on cyberloafing can be psychological capital, or simply PsyCap (Li, Gao, & Xu, 2020)(Luthans,2002). Psychological capital is a limitless emotional asset that might be adopted and established by individuals/students that might assist their individual and academic success (Kirrane, Lennon, O'Connor, & Fu, 2016)(Luthans, Avey,Avolio, & Peterson,2010). The findings of the study as shown in the analysis chapter gives justification to the approval of the moderation hypothesis that is if the students are high on PsyCap then he/she will not be so

much involved in cyberloafing. i.e. PsyCap will reduce the positive relationship between cognitive absorption and cyberloafing.

## **5.2 Theoretical Implications**

The findings of the current research study add to the literature of cognitive absorption, cyberloafing, and academic procrastination behavior of students studying in the universities. As it was explained previously, that cyberloafing is very common among university-level students and a lot of research has been done on the negative consequences of cyberloafing. Cyberloafing was studied previously in the context of workplaces as the employees were used to using organizational internet resources for their own purposes or entertainment during working hours. But up to the best of researcher knowledge very little was known previously about the relationship of cognitive absorption, cyberloafing, and academic procrastination in the context of students.

The current study was done on a population that includes students from different universities and most of the respondents were from the age group of 18 to 24 and bachelor's degree. And according to research People aged 16 to 24 spend the most time on social media – 3 hours and 1 minute daily (Saleem, 2019). As a result, the current study tried to add to the research literature on the relationship of cognitive absorption, cyberloafing, and academic procrastination in the context of students. Cyberloafing level is high in university-level students as proved by the findings of the current study that leads towards the academic procrastination behavior among students that cause damage to their education career in the long run.

The second contribution of the current research is the examination of cognitive absorption and academic procrastination through the theoretical optic of The theory of planned behavior. In light of the theory of planned behavior, the current research adds to the literature by demonstrating the process through which students of the university-level pass and leads their behavior to be procrastinating by including the role of cyberloafing in the process. The findings of the current

research were consistent with the proposed model that cognitive absorption causes university-level students to engage in cyberloafing which further causes them to be involved in procrastinating behavior.

As in the contemporary world, it is almost impossible to completely eliminate negative behaviors and their causes, and consequences. So now from the past decade researchers and practitioners are suggesting that now researchers should switch their directions of the research to finding the ways through which these negative phenomenons of cause and effect relationship can be mitigated. So the current study also adds to the literature by examining the moderating role of psychological capital between cognitive absorption and cyberloafing. Particularly, the current research provides support for the belief that the personality of employees also has impacts alongside the mediational path from cognitive absorption to cyberloafing behavior of students which further leads toward academic procrastination. In accordance with the theory of planned behavior, the findings of the current research study show that the intensity of cyberloafing that arises from cognitive absorption can be affected by the level of psychological capital among university-level students. Moreover, the indirect path of cognitive absorption and academic procrastination through students' level of cyberloafing was weaker on the high degree of psychological capital. Specifically, this contribution adds to the buffering literature of the theory of planned behavior and increases its scope.

### **5.3 Practical Implications**

This concept is generally accepted that cyberloafing has a very harmful impact on students. But in the contemporary world, cyberloafing is very common. The rate of usage of the internet and technological devices is increasing day by day at a very fast pace specifically among the age group of 18 to 24. The current study was conducted on university-level students.

As the success of a country depends upon the success of youths so it is very important for any country that its young generation is on its right path so that they can do the best of their qualities and put their energies into their success.

Human resource is the major resource for any country. Anything can be replaced with machines but humans cannot be replaced with machines. That is why it is very important for any country that their youths are on the right path.

The personality of students can impact their cyberloafing activities because emotions can be both trait-based and state-based. Trait-based characteristics are somehow everlasting, e.g. personality of individuals/students, while state-based characteristics are more momentary and are shown according to specific situations e.g. stress. However, the current research suggested after analysis that the cyberloafing behaviors of students can be changed by focusing on the state-based variables. This is a worth noticing concepts, predominantly because state-based features are more flexible and they are important and promising areas of a target for interventions. Integrating state-based features and variables into an examination of cyberloafing activities will produce more cooperative results that how cyberloafing behaviors can be changed among students.

The current study incorporates the concept of psychological capital which is a state-based variable. Psychological capital can be increased through training etc. Having belief in themselves i.e. self-efficacy and having the determination to get success i.e. hope agency, the probability of individuals/students exhibiting cyberloafing will be decreased, and so does the sense of perceived behavioral control to lower the level of academic procrastination will also be decreased, all of which are essential for good academic performance of the students. Secondly, individuals/s-students who are high on psychological capital are expected to produce extensive pathways and strategies to overwhelmed hindrances i.e. hope, and to spring back and pick up lessons from hindrances i.e. resilience as in the case of covid 19 pandemics in the current decade of twenty first century.

## 5.4 Limitations and Future Directions

There is no perfect thing in the world. Everything existing in this world has some kind of limitations. The current research also has some limitations which are faced while conducting the research. Firstly, Data was collected by convenience sampling

method and this may limit the generalizability of the results. The second reason can be the sample of the study as data was collected from students which affects range of the validity. As the research is conducted in the Covid-19 pandemic situations and data was collected through an online survey because all of the educational institutions were closed by government orders. So the response rate was very low and this can limit the generalizability of the research. The research needs ample time. As of now, it was hard and difficult to conduct research properly due to limited time and resources. The research requires a great time and if the sample size was to be specifically increased, then the time frame must be increased as well. But due to the time factor, data were collected in a cross-sectional method. Future research can be done through time-lag studies, as data collected at different points of time gives improved results and reduce the common method biases. The current study used SPSS for analysis, further studies can use advanced analysis tools like Mplus or SmartPLS to handle complex models. The current research was based on the theory of planned behavior. In the future, the theoretical links studied in current research can be studied by any other theory to give more justifications for the existing research. Proposed theories for the current theoretical model can job demand and resource model, and social learning theory. Secondly, the cross-sectional method was used for the current research study for the collection of data. So future research can be conducted by using some other research design e.g. time-lag studies, as data collected at different points of time gives improved results and reduce the common method biases (Shadish et al., 2002). Thirdly, moderators other than psychological capital can also be used in the existing links e.g. core-self-evaluation, job resourcefulness and cultural dimensions can also be used in the existing links. As cyberloafing and procrastinating behavior are linked with culture also. It is the culture of the educational institutions, homes, and society as a whole that shape the behavior of its population.

## **5.5 Conclusion**

Cyberloafing is becoming a severe dilemma in the contemporary world specifically in the young generation due to its deleterious consequences on students' academic

performance as they spend most of their time on social media and the internet surfing rather than studying.

The current research examines the consequences of cyberloafing by presenting a theoretical model based on a moderated-mediation model supported by the theory of planned behavior in the education sector of Pakistan. A survey was conducted through an adopted questionnaire to investigate the impact of cognitive absorption on academic procrastination through cyberloafing and with the moderating role of psychological capital. Approximately 500 questionnaires were online shared with the university level students of Pakistan and 204 questionnaires were returned and used for the analysis of data. The results were obtained by using SPSS. The results exhibit that reliability of the theoretical model proposed in the current research is appropriate and the model is also fit.

In addition to that, the findings of the current study show that cognitive absorption and cyberloafing is positively and significantly associated with academic procrastination. Furthermore, the mediating role of cyberloafing between cognitive absorption and academic procrastination was also found to be significant. Moreover, the moderating role of psychological capital on the relationship of cognitive absorption and cyberloafing was also founded to be significant.

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# Appendix-A

## Questionnaire

**Dear Respondent**

I am Student at Capital University of Science and Technology, enrolled in MS. Management Sciences program. I am collecting data for my research, titled “The Impact of Cognitive Absorption on Academic Procrastination by Considering the Mediating Role of Cyberloafing and Moderating Role of Psychological Capital”. The research sample chosen for analysis are the university level students from various universities in Pakistan. For this purpose, I need some of your valued time to answer the questions. This questionnaire will hardly take your 5-10 minutes. Please feel free to share precise information as its optimal confidentiality will be ensured, and data will only be used for academic purposes.

Sincerely,

**Kanza Tahir,**

**MS (HR) Research Scholar,**

**Faculty of Management and Social Sciences,**

**Capital University Science and Technology, Islamabad.**

## Section 1: Demographics

Gender	Male	Female			
Age	16 to 20	21 to 25	26 to 30	31 to 35	35 above
Qualification	Bachelors	Masters	MS/Mphil	PhD	
Name of the University	Capital University of Science & Technology	National University of Science & Technology	Comsat University	Fatima Jinnah Women University	Quaid-e-Azam University
	National University of Modern Languages	ARID University	Kohat University of Science & Technology	University of Engineering & Technology	University of Karachi
	Ripha International University				

## Section 2: Academic Procrastination

Please tick the relevant choices: 1-Strongly Disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree.

S.No.	Items					
1	I put off projects until the last minute.	1	2	3	4	5
2	I know I should work on schoolwork, but I just don't do it.	1	2	3	4	5
3	I get distracted by other, more fun, things when I am supposed to work on schoolwork.	1	2	3	4	5
4	When given an assignment, I usually put it away and forget about it until it is almost due.	1	2	3	4	5
5	I frequently find myself putting important dead-lines off.	1	2	3	4	5

## Section 3: Cognitive Absorption

Please tick the relevant choices: 1-Strongly Disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree.

S.No.	Items					
1	Time appears to go by very quickly when I am using the Web.	1	2	3	4	5
2	Sometimes I lose track of time when I am using the Web.	1	2	3	4	5
3	Time flies when I am using the Web.	1	2	3	4	5
4	Most times when I get on to the Web, I end up spending more time that I had planned.	1	2	3	4	5
5	I often spend more time on the Web than I had intended.	1	2	3	4	5
6	While using the Web I am able to block out most other distractions.	1	2	3	4	5

7	While using the Web, I am absorbed in what I am doing.	1	2	3	4	5
8	While on the Web, I am immersed in the task I am performing.	1	2	3	4	5
9	When on the Web, I get distracted by other attentions very easily.	1	2	3	4	5
10	While on the Web, my attention does not get diverted very easily.	1	2	3	4	5
11	I have fun interacting with the Web.	1	2	3	4	5
12	Using the Web provides me with a lot of enjoyment.	1	2	3	4	5
13	I enjoy using the Web.	1	2	3	4	5
14	Using the Web bores me.	1	2	3	4	5

## Section 4: Cyberloafing

Please tick the relevant choices: **1-Strongly Disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree.**

S.No.	Items					
1	I checked non-work related email during class hours.	1	2	3	4	5
2	I sent non-work related email during class hours.	1	2	3	4	5
3	I visited general news sites during class hours.	1	2	3	4	5
4	I visited stock or investment related web sites during class hours.	1	2	3	4	5
5	I checked online personals during class hours.	1	2	3	4	5
6	I viewed sports related web sites during class hours.	1	2	3	4	5
7	I received non-work related email during class hours.	1	2	3	4	5
8	I visited banking or financial related web sites during class hours.	1	2	3	4	5
9	I shopped online for personal goods during class hours.	1	2	3	4	5

10	I visited online auctions sites (e.g., OLX) during class hours.	1	2	3	4	5
11	I sent/received instant messaging during class during class hours.	1	2	3	4	5
12	I participated in online games during class hours.	1	2	3	4	5
13	I participated in chat rooms during class hours.	1	2	3	4	5
14	I visited newsgroups or bulletin boards during class hours.	1	2	3	4	5
15	I booked vacations/travel during class hours.	1	2	3	4	5
16	I visited virtual communities during class hours.	1	2	3	4	5
17	I maintained a personal web page during class hours.	1	2	3	4	5
18	I downloaded music during class hours.	1	2	3	4	5
19	I visited job hunting or employment related sites during class hours.	1	2	3	4	5
20	I visited gambling web sites during class hours.	1	2	3	4	5
21	I read blogs during class hours.	1	2	3	4	5
22	I viewed adult oriented web sites during class hours.	1	2	3	4	5

## Section 5: Psychological Capital

Please tick the relevant choices: 1-Strongly Disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree.

S.No.	Items					
1	I feel confident analyzing a long-term problem to and its solution.	1	2	3	4	5
2	I feel confident in representing my work area in meetings with management.	1	2	3	4	5
3	I feel confident contributing to discussions about the institution's strategy.	1	2	3	4	5

4	I feel confident helping to set targets/ goals in my work area.	1	2	3	4	5
5	I feel confident contracting people outside the institution.	1	2	3	4	5
6	I feel confident presenting information to a group of colleagues.	1	2	3	4	5
7	If I find myself in a jam at work, I could think of many ways to get out of it.	1	2	3	4	5
8	At the present time, I am energetically pursuing my work goals.	1	2	3	4	5
9	There are lots of ways around any problem.	1	2	3	4	5
10	Right now I see myself as being pretty successful at work.	1	2	3	4	5
11	I can think of many ways to reach my current work goals.	1	2	3	4	5
12	At this time, I am meeting the goals that I have set for myself.	1	2	3	4	5
13	When I have a setback, I have trouble recovering from it and moving on.	1	2	3	4	5
14	I usually manage to overcome difficulties one way or another.	1	2	3	4	5
15	I can be on my own, so to speak, at work if I have to.	1	2	3	4	5
16	I usually take stressful things at in smooth way.	1	2	3	4	5
17	I can get through difficult times at work because I've experienced difficulty before.	1	2	3	4	5
18	I feel I can handle many things at a time.	1	2	3	4	5
19	When things are uncertain for me, I usually expect the best.	1	2	3	4	5
20	If something can go wrong for me work-wise, it will.	1	2	3	4	5
21	I always like on the bright side of things.	1	2	3	4	5

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22	I'm optimistic about what will happen to me in the future as it pertains to work.	1	2	3	4	5
23	In this job, things never work out the way I want them to.	1	2	3	4	5
24	I approach this job as if every cloud has a silver lining.	1	2	3	4	5