Gratitude, Self-Regulation, And Academic Motivation During COVID-19 In University Students: Differential Associations For Earning And Non-Earning Students

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Abstract

It is known that we have entered in a challenging era when the educational systems are digitalized with a heavy reliance on digital technology. The challenge of keeping the students engaged, academically motivated, and self-regulated is common across grade levels, subject matters, and types of educational institutions around the globe. This challenge is particularly relevant to the students who work alongside education to meet their finances. This study was aimed at assessing whether earning and non-earning students would score differently on gratitude, self-regulation, and academic motivation during online education. A secondary objective was to assess whether gratitude and self-regulation would differently associate with specific academic motivation constructs across earning and non-earning students in online education. A cross-sectional research design was used and a sample of 247 participants (M age= 24.20 years, SD = 2.25 years; earning university students = 122 & non-earning = 125) was selected and approached through an online survey. The gratitude scale, self-regulation scale, and academic motivation scale were used to assess the levels of gratitude, self-regulation, and extrinsic and intrinsic academic motivation, in the sample. Results from t test analyses demonstrated that earning students scored significantly higher on four academic motivation outcomes including intrinsic motivation to know, intrinsic motivation towards accomplishment, extrinsic motivation of identified regulation, and extrinsic...
motivation of external regulation compared to non-earning students. Both the gratitude and self-regulation significantly and positively correlated with the 3 intrinsic motivation outcomes and 3 extrinsic motivation outcomes. Finally, analyzing the mediated moderation models, it was found that gratitude was strongly associated with all academic motivation constructs except extrinsic motivation of interjected regulation in earning students compared to non-earning students. Also, self-regulation significantly mediated the association of gratitude with all academic motivation constructs for all participants.

**Key words:** Gratitude, Intrinsic Motivation, Extrinsic Motivation, Self-regulation, Earning and Non-Earning Students, Covid 19 pandemic

1. Digital Technology during Covid-19

The effect of Covid-19 pandemic on education during 2020 cannot be underestimated. The COVID-19 pandemic has interrupted learning organizations globally, distressing the most vulnerable learners. Approximately 1.5 billion students have been affected in educational sectors due to institutional closure in response to the COVID-19 pandemic (Global Education Coalition, 2020). There was an arising need to continue education leading the foundation that government and schools had to be digitalized. Since last 10 years, more facilities are being invested in educational settings (OECD Center for Educational Research, 2016). Deficiency of digital technology excluded at least one third of students from pursuing learning remotely. Most of the countries have now been adapted to the new innovation of technology use in education. Similarly, Portugal has adopted an e-learning mode termed as Moodle (González et al., 2020). If we talk about Pakistan, it is still struggling due to their own sociocultural and political issues for an efficient digitalization in educational setting. During pandemic this is the right time for Pakistani academicians to take trainings of digitalization. (Malik & Raziq, 2021). With this transition towards digitalization, keeping the students engaged, self-regulated, and academically motivated has been challenging particularly in the context of Pakistan with the limited resources. This challenge has been more relevant to the students who work alongside their studies to meet their finances. Earning during studies is a connection of theory and practice by taking part in administered and planned work (Gault et al., 2000). Education holds a significant role in the betterment of individuals, community and the civilization in general.

Digitalization means the automated tools, classifications, procedures, and resources that produce, supply or progress the data. Familiar examples include public media, online games, software and mobile phones. Success of a learner depends on the quality of the teacher. Adapting digital technologies for efficient professional development and for the individualized learning, teachers should emphasize on the significance of the technical and pedagogical aspects of digital technology into their teaching styles and methodology for better learning outcomes (Erdin, 2020). The technology and pedagogics depend on each other and teachers teach and learners learn better with the help of these technologies. In the current context of digitalization, online learning, and
materialism, there is a need to assess whether the level of gratitude would predict self-regulation, and academic motivation in undergraduate students.

1.1 Gratitude, Self-regulation and Academic Motivation

Gratitude is a moral value that permits us to see the greatest in each other and in our lives. The more we practice it the more we will be optimistic (Emmons & McCullough, 2003). Students are more academically motivated when they have a thankful attitude towards the educational opportunities that they have. Moreover academic motivation also comes from identification of educational facilities and privileges that students acknowledge. In this way a gratitude or thankfulness is an important driver for academic motivation in students. Academic motivation gives students a goal to focus on and directs their actions towards academic achievement-oriented tasks. The behavioral outcome of academic motivation is self-regulation that enables students to perform well. Academic tasks required self-regulation to be completed on time and in good quality (Berhenke, 2013).

The construct gratitude has been universally accepted to be very effective and valuable for helping and enhancing the self-regulation and academic motivation; and it seems particularly significant during the stressful situation of COVID-19 pandemic. Gratitude enhances the interaction that students have with their peers and teachers (Bono et al., 2020; Renshaw & Hindman, 2017). It helps in their self-regulation and academic motivation. In most of the psychology researches, the reflection of gratitude can affect the well-being (Chen & Wu, 2014). It increases the self-esteem in students (Li et al. 2012; Kashdan et. Al 2006; Strelan, 2007). This self-confidence helps students in their earning. Literature describes that undergraduate who present high views of their skills, gratitude, and confidence over their strengths, show higher levels of academic motivation. In comparison, low academic motivation adversely disturbs commitment and determination in higher studies (Busse & Walter, 2017; Rizkallah & Seitz, 2017; Dresel & Grassinger, 2013). It is very rare that motivated students drop out of schools or show underachievement (Wang & Pomerantz, 2009). In addition, gratitude predicts higher levels of academic motivation. Gratitude and self-regulation are the best predictors of academic motivation. Academic motivation has also been reported to increase student’s performance in academic institutes (Gbolli & Keamu, 2017). Gratitude and self-regulation are among the most important topics to be discussed in universities and the goal of learning has become to support students in terms of improving their self-regulation skills. Individuals usually expresses the gratitude because they need to be appreciated, in turn of this it boosts their readiness to collaborate with others and increase efficiency (Beck, 2016).

Self-regulation further requires the attention of academicians and researcher because it regulates the attention and concentration towards the tasks (Nilson & Zimmerman, 2013). There is no doubt that students have been overburdened with stress due to the unexpected advent of COVID-19. Self-regulation involves monitoring and using one’s emotions, thoughts and behaviors effectively and efficiently to procure positive results. Self-regulation is the ability to assess yourself so that you can manage your energy, emotions, and behavior to produce desirable
outcomes. Self-regulation enables us to manage stress, and schedule our activities. Self-regulation actually involves the person as a whole, and manages physical, emotional, mental, and social aspects of one's life (King & Datu, 2018). Self-regulation, academic motivation arises when the students value their motivation towards the tasks assigned by their teachers. (González-Fernández, A. 2003). This idea is suggesting two things, firstly, the students must be aware of his/her belief about the task with the certain reason or logic and secondly, the student identify his/her level of motivation towards the goal that is assigned to them. When the student will be aware of these two things he/she will be more consistent and will complete the task successfully (Wolters, 2003).

It is important to have high self-regulation to be academically motivated and vice versa. If a person understands academic tasks and follows instructions he will get good marks which will make him motivated to achieve more. Conversely, if a person is motivated to perform well in academics he will work on tasks in time and have right choice of purpose. Any task that people do out of their interest, and motivation is more efficiently done, and that is why academic motivation is directly proportional to academic achievement. More students are encouraged to work hard towards their studies. They ultimately end up getting better grades. Even if the students have limited cognitive abilities, and intelligence, they can perform better than, and other students if they are motivated, and hardworking enough. Academic Motivation or Motivation towards learning is best described through behavior that allows the students to engage themselves in their tasks and complete it successfully by their teachers for their future study goals (Law et al., 2019; Ford, 1992). There are two types of academic motivation in students: Intrinsic and Extrinsic. Intrinsic means the perception of a person on the activity, mastery and external means the environment, social norms, expectations of the society and attitude. It is also confirmed that the motivation from Teachers and peers is also contributing factor to enhance the academic motivation in students (Law & Breznik, 2017; Law & Geng, 2018; Law et al., 2010, 2019; Ngan and Law, 2015). Wentzelet al. (2010)

1.3 Self-determination Theory (SDT) - A Motivational Theory

Self-determination Theory (SDT) is a motivational theory of personality, development, and social processes that studies how social settings and individual differences help different types of motivation. According to the Self-determination Theory (SDT) (Ryan and Deci, 2000) One’s need to get the following in order to achieve something. In addition, how one can gets the academic motivation according to the SDT. Autonomy: It means how much a person is self-determined towards the goal he/she wants to achieve. Worrell (2016) monitored that intrinsic motivation predicted the student’s commitment, also predicted higher achievement. It means when student will be autonomous the more chance to earn than non-earn will be there for them.

Competence: One’s need to learn the different skills to become master of it, because people think that skills are needed to get a success. The more skills you have the more competent you will be. The students who are academically motivated their skills will be helpful in getting the occupation and also help in getting good grades.
Connection or relatedness: People need to experience a sense of connectedness and attachment to others. In short, the self-determined students are more motivated as compare to other who are not determined.

In order to reinforce the self-determination, the students have to be self-regulated because it boosts the growth of self-determination in them. The more your self-determined to their goals the more chances to get the job. In short, the more you earn. In contrast, if you are not self-determined there is a less chance of earning. According to (Rayan & Deci, 2000), the atmosphere of the society can either help or hamper the self-determined perspective. To achieve the goals, students first need to attain the necessary incentives. For example, academic motivation is very important to scholars (Firouznia, Yousefi, & Ghassemi, 2009). Pintrich (2000) says self-regulation is a dynamic and productive process that students authenticate, standardize, and stimulate to control their perception and performance. Today, self-regulation is most important element to balance students’ life with earning. A significant feature of self-regulation is the skill to make appropriate decisions. The person who is self-regulated sets their reachable goals by develop their own resources, proper planning to achieve those goals however remaining aware of their limitations (Miller & Byrnes, 2001) Self-regulation is a learning, that is, the encouraging and communicative procedures permitting individuals to initiate and endure cognitions, behaviors, and emotions in an organized way to the accomplishment of their own learning goals (Schunk, Zimmerman, 1994). There is a positive relationship between autonomous motivation and academic outcome (Howard et al., 2017; Grolnick, Ryan, & Deci, 1991; Guay, Ratelle, Roy, & Litalien, 2010; Katz, Eilot, & Nevo, 2014; Grolnick & Ryan, 1989). In addition, the more internalized the motivation, the more the learner’s identity. The benefits of the intrinsic motivation in educational setting are very evident. Taylor et al. (2014) suggested that there is an important role of intrinsic motivation in school accomplishment and consistently associated with higher performance. Intrinsic motivation is the diverse kind of extrinsic motivation, which states that the behavior of a person is for a reason not determined by the in-built satisfaction.

1.4 The advantage of “earning while learning”

The advantage of “earning while learning” are numerous. It creates a value of hard work and dignity of labor. In addition to their resume for better jobs in future, improve the communication skills, boosts the self-confidence. It also helps them to progress their subject preferences. It was unusual in Pakistan that students work and study together. Now the mind set of students and parents are changing. In the west, they introduce this concept of earning to their students to make them economically independent. Adolescence starts their occupations to discover their first job and sign their first employment contract (Pastore-Zimmermann, 2019). According to international literature, earning students are more efficient in their performance in academics as compare to those who are non-earnings and it improves future job openings (Nevt et al, 2018). An earning student is considered a very significant contribution in higher education (Callender et al., 2009).

1.5 Significance of this study
This study was designed to see whether earning and non-earning students score differently on gratitude, self-regulation and academic motivation during online education.

Assessing gratitude, self-regulation and academic motivation is particularly significant in COVID-19 context when all academic activities have been shifted to online module. Change in study module from physical to online mode and associated challenges may have affected academic motivation and self-regulation in university students. On the other hand, earning and non-earning university students may likely differ on level of gratitude and academic motivation. Also, the lockdown in the pandemic context impacted the earning income of university students. Therefore, significance of the study objectives has increased in the prevailing COVID-19 situation. Additionally the study is important in the cultural context of Pakistan because being a developing country there is poor technological awareness to cope with completely online study system. Students have faced problems associated with technology use including access to technological devices and internet availability, poor availability a conducive learning environment in the collectivistic context of crowded families. These factors in the cultural context of Pakistan arise the dire need to assess the study objectives on a sample of university students from the collectivistic context of Pakistan. Assessing the mediating role of academic motivation is important for two main reasons. One is that academic motivation found to be linked to academic performance; therefore, it has been assessed in different types of students however there were no studies that assessed it among the earning and non-earning students. Given the fact that positive psychology is a relatively newer domain of psychology and less work has been done in it as compared to other domains, the study will significantly contribute in body of knowledge related to positive psychology.

**Research Question**

The primary research question was to assess whether earning and non-earning students would score differently on gratitude, self-regulation, and academic motivation during online education. A secondary question was to assess whether gratitude and self-regulation would differently associate with specific academic motivation constructs across earning and non-earning students in online education.

**2. Methodology**

**Sample**

Using a cross-sectional research design, a sample of 247 participants (M age= 24.20 years, SD = 2.25 years; earning university students = 122 & non-earning = 125) was selected and approached through an online survey. Inclusion criteria included being a university student pursuing an undergraduate and a graduate degree, in age range 19-30 years, earning and non-earning, and being a man or woman. Descriptive analysis of demographic characteristics revealed that all participants were Pakistani university students in age range 18-30 years (M age= 24.20, SD= 2.25), and belonging to South Asian ethnic background. The study sample was fairly equally distributed in
terms of gender (men=49%; women=51%) and earning status (earning students = 49%; non-earning students = 51%). Seventy-one percent of the whole sample was registered in undergraduate degree programs and the rest (29%) were registered in graduate degree programs. Participants reported themselves belonging to low (1%), lower middle (22%), middle (43%), upper middle (32%), and higher (2%) socioeconomic status.

2.1 Assessment Measures

Gratitude Scale

The gratitude scale developed by McCullough et al. (2002) was used to assess the level of gratitude in participants from 6 items. Items used a seven point Likert scale response format from 1 (strongly disagree) to 7 (strongly agree). Before, calculating the composite score, items 3 and 6 were reverse scored. A composite gratitude score was obtained by adding the scores on all items with a potential range of score from 6 to 42. A higher score on the scale represented a higher level of gratitude. The alpha reliability of the scale in this research was .85.

Self-Regulation Scale

Safe regulation scale developed by Schwarzer et al., (1999) was used to assess the level of self-regulation in university students from a total of 10 items. All items were scored using a 4 point Likert scale format from 1 (not at all true) to 4 (exactly true). Items 4, 7, and 9 were reverse scored and then added in the rest of the items for obtaining a composite score of self-regulation. The alpha reliability of self-regulation scale in this research was .81.

Academic Motivation Scale

Academic motivation scale by Vallerand et al. (1992) was used to assess the level of academic motivation in university students. Comprising 28 items, the scale assessed the academic motivation in seven subscales including intrinsic motivation to know, intrinsic motivation towards accomplishment, intrinsic motivation to experience stimulation, extrinsic motivation of identified regulation, extrinsic motivation of introjected regulation, extrinsic motivation of external regulation, and a motivation. Each of the subscale was assessed from 4 items. Responses to all items were assessed on a 7 point Likert scale with a range from 1 (does not correspond at all) to 7 (corresponds exactly). Alpha reliabilities of the subscales in current research were very good ranging from .93 to .96 except for a motivation scale (i.e. .45). Considering the low internal consistency of the amotivation subscale, it was excluded from further data analysis in the study. Composite scores for each subscale were obtained by adding scores comprising the particular subscale with a potential range from 4-28.

2.2 Procedure

The Departmental Research Review Committee, COMSATS University Islamabad, Lahore approved the current study. Considering the social distancing protocols of the COVID-19, Google form was used as a mode of data collection. A Google form link was generated and publicized
using various e-communication channels including emails, social media apps, and smartphone applications including WhatsApp, Twitter, Instagram, and Facebook. The link directed to a Google form stating the study’s nature, purpose, and inclusion criteria. Next page directed participants to the informed consent. The only participants who consented to participate could access the proceeding steps requiring participants’ responses to the assessment measures. Participant's confidentiality was assured and maintained by keeping their identity anonymous. Written instructions were provided to the participants, and they could communicate through provided email in the Google form in case of any ambiguity. Participants were cordially obliged at the end of form submission for their voluntary participation in the study.

3. Data Analysis and Results

Before proceeding for final data analysis, data were screened for outliers and missing values. The threshold selection, extreme value analysis procedure was adopted for identification and removal of outliers (Cabras & Morales, 2006). During missing data analysis, it was observed that none of the study variable had more than 2% missing data. Missing values were handled by adopting single imputation method and using “replace missing values with series median”.

Descriptive statistics (Means, SD, & alpha reliability coefficients) of the study variables were generated (see Table 1). Independent sample t-tests compared earning students with non-earning students on gratitude, self-regulation, and academic motivation constructs (See Table 1). Group differences were significant on 4 academic motivation constructs. Earning students compared to non-earning students scored higher on intrinsic motivation to know (M=9.15, SD=5.25 >M = 7.24, SD=3.43), intrinsic motivation towards accomplishment (M=9.13, SD=5.35 >M = 7.69, SD=3.13), extrinsic motivation of identified regulation (M=9.29, SD=5.71 >M = 7.96, SD=3.56), and extrinsic motivation of external stimulation (M=9.33, SD=5.57 >M = 8.01, SD=3.54). Gender differences were also calculated and presented in Table 2. Referring to gender differences female compared to male students scored higher on gratitude (t = -2.35, p <.05; M=21.94, SD=1.85 >M = 21.47, SD=1.21), intrinsic motivation to know (t = -2.12, p <.05; M=9.11, SD=5.29 >M = 7.92, SD=3.28), extrinsic motivation of identified regulation (t = -2.14, p <.05; M=9.24, SD=5.79 >M = 7.95, SD=3.30), and extrinsic motivation of external stimulation (t = -2.02, p <.05; M=9.24, SD=5.55 >M = 8.04, SD=3.48).

Insert Table 1 near here.

Insert Table 2 near here.

Bivariate correlation coefficients for age as a correlate of study variables were computed (See Table 3). The results showed that age was a significant negative correlate of gratitude, self-regulation, and all academic motivation constructs. Also, bivariate correlation coefficients were calculated between gratitude, self-regulation, and academic motivation constructs. The results in Table 2 showed that gratitude was positively correlated with self-regulation and all academic
motivation constructs. Also, self-regulation was positively correlated with academic motivation constructs.

Insert Table 3 near here.

Next, considering the significant correlations between gratitude, self-regulation, and academic motivation as well as differential correlations between gratitude and academic motivation constructs for earning and non-earning students, mediated moderation models were computed analyzing model 5 in Process to evaluate the mediating role of self-regulation and the moderating role of student earning status in association between gratitude and academic motivation. Notably, Process gives unstandardized regression weights, therefore, raw scores on all study variables were standardized (with M=0, SD=1) before final data analysis. Potential demographic confounds including age, gender, and degree level variables were controlled in all mediated moderation models. The results from Table 3 (Model 5) revealed that after controlling the potential confounding variables, earning status significantly interacted with gratitude to predict almost all academic motivation constructs except the extrinsic motivation of introjected regulation. Further analyses of conditional direct effects showed that gratitude was strongly associated with academic motivation constructs in earning students compared to non-earning students. The pattern and strength of associations was similar for motivation outcomes. Mediation analyses showed that self-regulation significantly mediated the association between gratitude and all academic motivation outcomes.

Table 1 Differences in Earning, and Non-earning Students on Study Variables.

<table>
<thead>
<tr>
<th>Variables</th>
<th>M (SD)</th>
<th>Alpha</th>
<th>Earning status</th>
<th>Mean</th>
<th>SD</th>
<th>t test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gratitude</td>
<td>21.70(1.59)</td>
<td>.85</td>
<td>Earning</td>
<td>21.66</td>
<td>1.55</td>
<td>-.44</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Non-Earning</td>
<td>21.75</td>
<td>1.61</td>
<td></td>
</tr>
<tr>
<td>IM to Know</td>
<td>8.53(4.46)</td>
<td></td>
<td>Earning</td>
<td>9.14</td>
<td>5.25</td>
<td>2.13*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Non-Earning</td>
<td>7.94</td>
<td>3.43</td>
<td></td>
</tr>
<tr>
<td>IMT w Ac</td>
<td>8.40(4.45)</td>
<td></td>
<td>Earning</td>
<td>9.13</td>
<td>5.35</td>
<td>2.57*</td>
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<td></td>
<td></td>
<td></td>
<td>Non-Earning</td>
<td>7.68</td>
<td>3.19</td>
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<tr>
<td>IMTE x S</td>
<td>8.25(4.19)</td>
<td></td>
<td>Earning</td>
<td>8.68</td>
<td>5.02</td>
<td>1.59</td>
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<td></td>
<td></td>
<td></td>
<td>Non-Earning</td>
<td>7.83</td>
<td>3.14</td>
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<tr>
<td>EMI dentified</td>
<td>8.61(4.78)</td>
<td></td>
<td>Earning</td>
<td>9.28</td>
<td>5.71</td>
<td>2.19*</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Non-Earning</td>
<td>7.96</td>
<td>3.56</td>
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<tr>
<td>EME xt Moti</td>
<td>8.66(4.69)</td>
<td></td>
<td>Earning</td>
<td>9.32</td>
<td>5.57</td>
<td>2.23*</td>
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<tr>
<td>Variables</td>
<td>Gender</td>
<td>N</td>
<td>Mean</td>
<td>SD</td>
<td>t-test</td>
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<tr>
<td>Gratitude</td>
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<td>21.46</td>
<td>1.21</td>
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<tr>
<td></td>
<td>Female</td>
<td>127</td>
<td>21.93</td>
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<tr>
<td>IM to Know</td>
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<tr>
<td>IMT ExS</td>
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<td>3.16</td>
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<td>127</td>
<td>8.66</td>
<td>4.94</td>
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<td>EM Identified</td>
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<td>7.95</td>
<td>3.30</td>
<td>-2.14*</td>
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<tr>
<td></td>
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<td>127</td>
<td>9.24</td>
<td>5.79</td>
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<tr>
<td>EMExt Moti</td>
<td>Male</td>
<td>120</td>
<td>8.04</td>
<td>3.48</td>
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<tr>
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<td>127</td>
<td>9.24</td>
<td>5.55</td>
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<tr>
<td>EM Introjected</td>
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<td>120</td>
<td>8.03</td>
<td>3.22</td>
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<td>8.73</td>
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<td>33.58</td>
<td>2.01</td>
<td>.060</td>
<td></td>
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<tr>
<td></td>
<td>Female</td>
<td>127</td>
<td>33.56</td>
<td>2.25</td>
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</table>

Note: *= p < .05, **= p < .01; ***= p < .001; IMtoKnow= intrinsic motivation-to know; IM to Know= intrinsic motivation-toward accomplishment; IMT ExS= intrinsic motivation-to experience stimulation; EMI= extrinsic motivation-identified regulation; EM Introjected= extrinsic motivation of introjected regulation; EM Ext Moti=extrinsic motivation of external regulation.

**Table 2** Gender Differences on Gratitude, Academic Motivation and Self-Regulation.
Note: *= p< .05, **= p< .01; *** = p< .001; IMtoKnow= intrinsic motivation-to know; IM to Know= intrinsic motivation-toward accomplishment; IMT ExS= intrinsic motivation-to experience stimulation; EMI= extrinsic motivation-identified regulation; EM Introjected= extrinsic motivation of introjected regulation; EM Ext Moti=extrinsic motivation of external regulation.

**Table 3** Correlation between Gratitude, Academic Motivation, and Self-Regulation.

<table>
<thead>
<tr>
<th>Variables</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in Years</td>
<td>-.27**</td>
<td>-.26</td>
<td>-.31**</td>
<td>-.32**</td>
<td>-.26**</td>
<td>-.31**</td>
<td>-.32**</td>
<td>-.25**</td>
</tr>
<tr>
<td>Gratitude</td>
<td></td>
<td>.26**</td>
<td>.49**</td>
<td>.46**</td>
<td>.47**</td>
<td>.51**</td>
<td>.49**</td>
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Note: *= p< .05, **= p< .01; *** = p< .001; IMtoKnow= intrinsic motivation-to know; IM to Know= intrinsic motivation-toward accomplishment; IMT ExS= intrinsic motivation-to experience stimulation; EMI= extrinsic motivation-identified regulation; EM Introjected= extrinsic motivation of introjected regulation; EM Ext Moti=extrinsic motivation of external regulation.
Table 4 Mediated Moderation Models Showing Mediating Effects of Self-Regulation and Moderated Effects of Earning Status in Association between Gratitude and Academic Motivation Constructs

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4. Discussion

Drawing on the empirical data from the earlier literature, we set two goals: to determine whether earning and non-earning students would score differently on gratitude, self-regulation, and academic motivation during online education, and to determine whether gratitude and self-regulation would be similarly or differently associated with different academic motivation constructs in earning and non-earning students in online education after taking into account the demographics.

Testing the first research question, the findings from t-test analyses showed that earning students outperformed non-earning students on four academic motivation outcomes. The findings are justified in another way. Students earning and managing their studies are generally more motivated and passionate regarding their goals in life than those who do not earn. They aim to make their life better than the present condition and emphasize doing and handling certain chores at a time. They are motivated to complete specific tasks simultaneously and have a strong desire to reach the topmost point of the ladder of success as they lack the unavoidable necessities of life and want to fulfill them. So, they express gratitude more often than others and praise to have even the necessities of life. Money, according to some studies, makes you happy and gives you a sense of self-satisfaction and gratitude, which is one of the causes of increasing an individual's intrinsic motivation. Through your earning you can buy the happiness for you but it is buys less as most of the people think (Aknin, Norton, & Dunn, 2009; Diener & Biswas-Diener, 2002; Frey & Stutzer, 2000).

The second goal was assessed using moderated mediation models, and the results revealed that gratitude was strongly associated with all academic motivation constructs except extrinsic motivation and introjected regulation. It was found that gratitude was strongly associated with all academic motivation constructs except extrinsic motivation of interjected regulation in earning students compared to non-earning students. Also, self-regulation significantly mediated the association of gratitude with all academic motivation constructs for all participants. Literature indicates that over time, a feeling of gratitude enhances happiness and promotes self-regulation and eventually physical and mental health (Gonzalez, et al., 2020). A research study revealed that if you keep gratitude and practice it at least for two weeks it will have a positive effect on your academic motivation that can last longer period of time. (Nawa, & Yamagishi, 2021).

Findings from another study supported the current study's findings by claiming that experimental gratitude appeared to improve high school students' academic motivation as well as increase positive learning processes and outcomes after an experiment (Khorrami, 2021). Furthermore, self-regulation mediated the relationship between gratitude and all academic motivation constructs significantly. Nawa (2021) proposed a close relationship between gratitude interventions and academic motivation after conducting an experiment on university students. According to Armenta
et al., the experience of gratitude motivates students to engage in self-improvement behaviors, propelling them to become better and more productive students. Because self-improvement behaviors are typically aimed at long-term goals at the expense of short-term goals, this insight is consistent with findings that gratitude reduces economic impatience. Ronnel (2018) conducted a series of studies to investigate how gratitude affects students' motivation, engagement, and achievement, and all studies provided converging evidence that grateful students outperform their peers in terms of learning outcomes. In gratitude, self-regulation, and academic motivation, an independent sample t-test revealed significant gender differences; female students outperformed male students in gratitude, self-regulation, and academic motivation. These findings are consistent with the findings of Chee, Pino, and Smith (2005), who found that female college students are more likely to have higher academic ethics than male students, who have higher academic attainment. Pajares (2001) also conducted a supportive study, claiming that a feminine orientation is advantageous, whereas a masculine orientation is advantageous when combined with a feminine orientation. A. Bandura's (1986) social cognitive theory is used to interpret the findings. Age and gratitude, self-regulation, and all academic motivation constructs were also found to have a significant inverse relationship.

The positive relationship between gratitude and all academic constructs was expected, given that gratitude intervention can have a positive impact on university students' academic motivation, and most importantly, that such effects may be long lasting (Nawa & Yamagishi, 2021). According to Ayub (2010), females are more intrinsically motivated than males. Males, on the other hand, are more extrinsically motivated than females. One possible explanation for these findings is that males are expected to be the primary breadwinners in our society. Academic performance and motivation for females are based on self-exploration and internal satisfaction. This is the primary reason why males are more extrinsically motivated than females. Given that aging is frequently associated with a decline in cognitive abilities, which may affect learning but not academic motivation, it is clear that aging is associated with a decrease in academic motivation (Momanyi et al, 2015). According to the findings, age was found to be negatively related to academic motivation, gratitude, and self-regulation.

Limitation

Certain limitations need to be considered while evaluating and interpreting the results and implications of the overall research that will eventually provide the directions for future research. First, the study used convenient sampling strategy to select sample; this in turn may limit the generalizability of the findings. Secondly, the study used a cross sectional research design which limit our ability to draw causal inferences.

5. Conclusion & Suggestions

To summarize the study's findings, earning students represented higher levels of self-regulation, gratitude, and academic motivation than non-earning students. According to the study, students
should be provided with the opportunities of part-time jobs so that they can enjoy financial independence while learning. Students should also be provided proper guidance to help them understand and differentiate between temporary and real happiness so that they do not become distracted by temporary financial ease and can achieve their long-term goal. The findings also show that students' academic performance improves when they are motivated. Furthermore, there is a gender difference in motivation and academic performance. The findings suggest that future research should focus on strategies for increasing students' determination, efficacy, and motivation. By investigating the methods/strategies, online studies could become more effective, and students will benefit fully from online education. Finally, age was discovered to be negatively associated with academic motivation, gratitude, and self-regulation.

References


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