RESEARCH ARTICLE

# Coronaphobia and academic procrastination in health sciences students during the first 3-month pandemic lockdown

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## Abstract

**Objective:** To determine the correlation between coronaphobia and academic procrastination among university students during the first 3-month coronavirus disease-2019 lockdown.

**Method:** The cross-sectional study was conducted from June to July 2020 at the Hamidiye Faculty of Health Sciences, the University of Health Sciences, Istanbul, Turkey, and comprised Health Sciences students of either gender across 10 departments. The coronavirus disease-2019 Phobia Scale and the Scale of Academic Procrastination Behaviour were used to gather data. The relationship of the scores was examined with respect to gender and academic level. Data was analysed using SPSS 21.

**Results:** Of the 743 subjects enrolled, 681(91.65%) completed the survey; 548(80.5%) females and 133(19.5%) males. The overall mean age was 20.91±1.94 years (range: 18-35 years). The largest group was that of first year students 229(33.6%). There was a significant correlation between coronaphobia and academic procrastination ($p$=0.001). Total coronaphobia ($p$=0.023) and psychological subscale scores ($p$=0.001) of women were significantly higher than men. Negative perceptions regarding instructors were higher in men than women ($p$=0.038). The academic year was not significantly associated with either coronaphobia (p=0.249) or procrastination ($p$=0.546).

**Conclusion:** The coronavirus disease-2019 created a phobia and this caused academic procrastination in health sciences students, especially women.

**Keywords:** COVID-19, Pandemic, Phobia, Procrastination, Education. (JPMA 72: 1383; 2022)

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## Introduction

The coronavirus disease-2019 (COVID-19), which started in China in December 2019, was declared a pandemic by the World Health Organisation (WHO). In addition to virally fatal and infectious consequences, the pandemic also had a psychological impact on people globally.[1,2]

The pandemic caused major disruption of systems worldwide, including the domain of education. China was the first to close schools, with other countries shortly following. Governments all around the world closed educational institutions in an attempt to contain the global pandemic.[3] Students could not attend universities because of the COVID-19 restrictions, and the pandemic affected learning continuity,[4] as well as the mental health of students. The phobia of COVID-19, termed 'coronaphobia', generated psychosocial manifestations across the different strata of society,[5] The including psychological effects on university students.[6-8] Students' situational anxiety may stem from increased social distancing among people in quarantine, and they were concerned about their education and career.[9] Medical students in Thailand reported low happiness levels and high stress levels during the first outbreak of COVID-19.[10]

The academic procrastination behaviour is the tendency to leave homework or preparation for examinations to the last moment unfoundedly. Such a behaviour is not only a deficiency in study habits or time management, but also a concept that includes the complex interactions of behavioural, cognitive and emotional components.[11] Time management problems, difficulty in concentrating, low motivation, poor sense of responsibility, anxiety/phobia of failure, unrealistic expectations and perfectionism among students can lead to academic procrastination tendency.[12-14] There is reportedly a positive relationship between anxiety and academic procrastination.[15] In a study, Chinese university students' symptoms of anxiety and economic concerns were found to be associated with stress factors related to COVID-19, with impact getting reflected in their daily life and academic delays.[16]

The unexpected transition to distance education at schools due to COVID-19 marked the beginning of a new era for students in Turkish universities. The current study was planned to assess the relationship between coronaphobia and academic procrastination behaviour of university students during the first 3-month pandemic lockdown.

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## Subjects and Methods

The cross-sectional study using a relational screening model was conducted from June to July 2020 at the Hamidiye Faculty of Health Sciences, the University of Health Sciences, Istanbul, Turkey. After approval from the institutional ethics review committee, power analysis was used to calculate the sample size[17] with 0.40 effect size, 80% power and 0.05 alpha error. The sample was raised using simple random sampling technique from among students of either gender studying at 4-year undergraduate programmes at the departments of Occupational Therapy, Speech and Language Therapy, Healthcare Management, Midwifery, Occupational Health and Safety, Child Development, Social Work, Physical Therapy and Rehabilitation, Nutrition and Dietetics, and Audiology. Those who were not willing to participate and those with incomplete responses were excluded.

After taking informed consent from the subjects, data was collected using a self-designed socio-demographic form containing questions about age, gender, department, and study levels.

The COVID-19 Phobia Scale (C19P-S) was used to assess coronaphobia of the students. The scale, developed in Turkey, evaluates psychometric properties.[18] It is a 20-item self-reporting scale that is scored on a 5-point Likert scale, ranging from 1=strongly disagree to 5 = strongly agree. The C19P-S has four sub-scales; psychological (items: 1,5,9,13,17 and 20), somatic (items: 2,6,10,14 and 18), social (items: 3,7,11,15 and 19), and economic (items: 4,8,12 and 16). The total C19P-S score is obtained by the sum of the subscale scores, ranging 20-100. A high score means high phobia. The Cronbach alpha (α) coefficient of the scale is 0.925 and it varies from 0.85 to 0.90 for the subscales.[18]

The Academic Procrastination Behaviour Scale (APBS) was used to evaluate the students' procrastination behaviour related to academic tasks, with The proven validity and reliability in Turkish language.[19] It is a self-reporting scale scored on a 5-point Likert scale. The scale has 38 items across 4 subscales; irresponsibility (19 items), quality of perceived academic task (10 items), negative perceptions regarding instructors (5 items), and academic perfectionism (4 items). High scores indicate higher academic procrastination. The Cronbach α coefficient of the scale is 0.947 and the value varies between 0.64 and 0.95 for the subscales.[19]

The questionnaires were converted into the online format using Google Forms, and were sent to the students via e-mail and/or WhatsApp messages. The responses that were returned to the survey link were analysed.

Data was analysed using SPSS 21. Data was expressed as frequencies and percentages or as mean and standard deviation, as appropriate. Data normality was assessed using Kolmogorov-Smirnov/Shapiro-Wilks test as well as histogram and probability graphs. Pearson's correlation analysis was done to examine the relationship between total and subscale scores. Independent t-test or analysis of variance (ANOVA) was used, as appropriate. P<0.05 was considered statistically significant.

## Results

Of the 743 subjects enrolled, 681(91.65%) completed the survey; 548(80.5%) females and 133(19.5%) males. The

**Table-1:** Academic profile of the subjects.

| | Students [n (%)] |
|---|---|
| **Department** | |
| Occupational Therapy | 69/266 (10.1) |
| Speech and Language Therapy | 86/266 (12.6) |
| Healthcare Management | 41/283 (6.0) |
| Midwifery | 25/311 (3.7) |
| Occupational Health and Safety | 93/237 (13.7) |
| Child Development | 51/302 (7.5) |
| Social Work | 6/281 (0.9) |
| Physical Therapy and Rehabilitation | 169/298 (24.8) |
| Nutrition and Dietetics | 108/365 (15.9) |
| Audiology | 33/274 (4.8) |
| Total | 681/2883 (100) |
| **Study Level** | |
| First | 229/474 (33.6) |
| Second | 142/763 (20.9) |
| Third | 188/785 (27.6) |
| Fourth | 122/861 (17.9) |
| Total | 681/2883 (100) |

**Table-2:** Relationship between total and subscale scores of C19P-S and the Academic Procrastination Behaviour Scale.

| Sub-Scales of the C19P-S and Academic Procrastination Behaviour Scales | *r*-value | *p*-value |
|---|---|---|
| Psychological Sub-scale- Quality of Perceived Academic Task | 0.199 | 0.001* |
| Psychological Sub-scale- Academic Perfectionism | 0.228 | 0.001* |
| Psychological Sub-scale- Academic Procrastination Behaviour Scale Total Score | 0.164 | 0.001* |
| Somatic Sub-scale- Irresponsibility | 0.096 | 0.012* |
| Somatic Sub-scale- Perceptions Regarding Instructors | 0.079 | 0.039* |
| Somatic Sub-scale- Academic Perfectionism | 0.235 | 0.001* |
| Somatic Sub-scale- Academic Procrastination Behaviour Scale Total Score | 0.169 | 0.001* |
| Social Sub-scale- Quality of Perceived Academic Task | 0.197 | 0.001* |
| Social Sub-scale- Academic Perfectionism | 0.278 | 0.001* |
| Social Sub-scale- Academic Procrastination Behaviour Scale Total Score | 0.183 | 0.001* |
| Economic Sub-scale- Academic Perfectionism | 0.207 | 0.001* |
| Economic Sub-scale- Academic Procrastination Behaviour Scale Total Score | 0.124 | 0.001* |
| C19P-S Total Score- Quality of Perceived Academic Task | 0.157 | 0.001* |
| C19P-S Total Score- Academic Perfectionism | 0.279 | 0.001* |
| C19P-S Total Score- Academic Procrastination Behaviour Scale Total Score | 0.189 | 0.001* |

C19P-S: Coronavirus disease-2019 phobia scale.

**Table-3:** Outcomes with respect to gender.

| | Gender | n | Mean±SD | *t*-test | *p*-value |
|---|---|---|---|---|---|
| **Sub-scales of C19P-S** | | | | | |
| Psychological | Male | 133 | 18.40±6.3 | -4.286 | 0.001* |
| | Female | 548 | 20.77±5.6 | | |
| Somatic | Male | 133 | 8.44±3.9 | -0.014 | 0.989 |
| | Female | 548 | 8.45±3.8 | | |
| Social | Male | 133 | 13.67±5.2 | -1.618 | 0.106 |
| | Female | 548 | 14.47±5.1 | | |
| Economic | Male | 133 | 7.57±3.4 | -0.781 | 0.435 |
| | Female | 548 | 7.83±3.4 | | |
| Total Score | Male | 133 | 48.08±16.2 | -2.286 | 0.023 |
| | Female | 548 | 51.51±15.4 | | |
| **Sub-scales of Academic Procrastination Behaviour Scale** | | | | | |
| Irresponsibility | Male | 133 | 47.92±17.7 | -0.145 | 0.884 |
| | Female | 548 | 48.17±17.7 | | |
| Quality of Perceived Academic Task | Male | 133 | 37.32±9.2 | -1.520 | 0.129 |
| | Female | 548 | 38.57±8.3 | | |
| Negative Perceptions Regarding Instructors | Male | 133 | 14.54±4.9 | 2.089 | 0.038 |
| | Female | 548 | 13.53±5.4 | | |
| Academic Perfectionism | Male | 133 | 10.49±3.8 | -0.090 | 0.928 |
| | Female | 548 | 10.52±3.8 | | |
| Total Score | Male | 133 | 110.26±20.9 | -0.279 | 0.780 |
| | Female | 548 | 110.79±19.1 | | |

*Independent samples t test; p<0.05. C19P-S: Coronavirus disease-2019 phobia scale.

**Table-4:** Outcomes with respect to academic levels.

| Scale | Study Level | n | Mean±SD | *f* | *p*-value |
|---|---|---|---|---|---|
| **C19P-S Total Score** | | | | | |
| | First | 229 | 52.07±16.0 | 1.375 | 0.249* |
| | Second | 142 | 50.99±15.7 | | |
| | Third | 1882 | 50.73±15.6 | | |
| | Fourth | 122 | 48.54±14.5 | | |
| | Total | 681 | 50.84±15.6 | | |
| **The Academic Procrastination Behaviour Scale Total Score** | | | | | |
| | First | 229 | 111.51±19.6 | 0.711 | 0.546* |
| | Second | 142 | 111.02±21.2 | | |
| | Third | 188 | 110.90±18.7 | | |
| | Fourth | 122 | 108.42±18.2 | | |
| | Total | 681 | 110.69±19.4 | | |

*ANOVA. C19P-S: Coronavirus disease-2019 phobia scale.

overall mean age was 20.91±1.94 years (range: 18-35 years). The largest group was that of first year students 229(33.6%), and most of the participants were from the Physical Therapy and Rehabilitation department (Table 1).

The mean C19P-S score was 50.84±16.8, and the mean APBS score was 110.69±19.9. There was a significant correlation between the total scores of the two scales ($r$=0.189, $p$=0.001). Association between total and subscale scores were also noted (Table 2).

Total coronaphobia ($p$=0.023) and psychological subscale scores ($p$=0.001) of women were significantly higher than men. Negative perceptions regarding instructors were higher in men than women ($p$=0.038) (Table 3).

The academic year was not significantly associated with either coronaphobia ($p$=0.249) or procrastination ($p$=0.546) (Table 4).

## Discussion

Significant correlation was found between coronaphobia and academic procrastination among Health Sciences students. The results support earlier findings reported in Vietnam.[20] The current study showed that the pandemic had a negative effect on the students, which has been reported earlier as well.[7,16,21]

Pramukti et al. investigated the psychological responses towards COVID-19 among university students from three countries; Indonesia, Taiwan and Thailand.[7] Factors associated with higher anxiety differed across the countries. Less perceived satisfactory support was associated with more suicidal thoughts among Indonesian students. Taiwanese students were more negatively affected by information gathered from the internet and from medical staff than Indonesian or Thai students.[7]

With respect to tele-education, the current study noted that the university was not ready for distance education.

Academic procrastination among the students may have resulted from the inability to use information sources properly. During the pandemic, the daily life routines of the students changed with owing to lockdowns. Approximately half of the world's population still lacks internet connection.[22] This means that nearly one-third of the students around the globe could not access remote learning, mainly due to lack of online learning policies or the lack of equipment needed to connect from home.[22] As a matter of fact, the current study could not reach most of the targeted students online even to conduct the study. Of the 2,883 students, only 743(25.8%) could be enrolled. Additionally, the risk of disease transmission, the presence of relatives struggling with COVID-19, or the rising number of deaths may also have increased stress levels and phobia

among the students. Furthermore, dissatisfaction, hopelessness, and thoughts that online education was not sufficient for professional development may have led to academic procrastination. School closures globally caused a major disruption in the lives of students.[5]

The current study found that women had more coronaphobia and the perception of coronaphobia was higher in women than men. The finding supports earlier studies.[21,23,24] Among other causes, the irregularities experienced in the menstrual period in female students during the pandemic may have caused additional phobia.[25]

According to the current study, there was no difference in academic procrastination behaviours related to gender during the pandemic. In contrast, Balkıs et al. observed that academic procrastination among women students was lower than men.[12]

In the current study, male students were more influenced by the way of teaching of lecturers. This outcome could be an expected result when the internal consistency and the total score of APBS were considered in the light of literature.[19] Although the students were at different study levels, there were no differences in their phobia and academic procrastination behaviours. No study could be found in literature regarding phobia and procrastination differences according to academic levels.

In the light of the findings, academic procrastination behaviour prevention programmes[26] and group psychological guidance activities should be planned by universities.

The current study has its limitations as it studied only Health Sciences students, and did not focus on the causes of phobia and academic procrastination. The current data did not indicate whether or not the subjects had academic procrastination behaviour before the pandemic. Moreover, the newly developed scales did not have cut-off points. Lastly, it did not investigate the factors behind causes of phobia between women and men.

Other than taking care of these limitations, future studies should also explore factors, like socio-economic status of students, their private lives, traditions, and epigenetic characteristics.

## Conclusion

The COVID-19 pandemic created a phobia and this caused academic procrastination in Health Sciences students. The perception of coronaphobia was higher in women than men, while men were more influenced by the way of teaching of the lecturers during the pandemic.

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