

## ORIGINAL ARTICLE

 OPEN ACCESS

Received: 07.04.2023

Accepted: 10.06.2023

Published: 12.07.2023

**Citation:** Anandu S, Prasanna Kamath BT, Pradeep TS. Social Phobia and Procrastination as the Predictors of Perceived Stress among the School Children of Kolar Post COVID 19 Pandemic - A Cross-sectional S study. J Clin Biomed Sci 2023; 13(2): 37-43. <https://doi.org/10.58739/jcbs/v13i2.23.16>

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Published By Sri Devaraj Urs  
Academy of Higher Education, Kolar,  
Karnataka

**ISSN**

Print: 2231-4180

Electronic: 2319-2453



# Social Phobia and Procrastination as the Predictors of Perceived Stress among the School Children of Kolar Post COVID 19 Pandemic - A Cross-sectional S tudy

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## Abstract

The WHO defines a pandemic as spread of certain disease worldwide or across international borders, influencing many people. COVID-19 is recently found infectious coronavirus that is transmitted from person to person via droplets. Multiple studies indicating an increase in schoolchildren's procrastination can be attributable to pandemic's increased uncertainty level. To find out whether Social Phobia and Procrastination can be predictors of Perceived Stress among school children of Kolar post-COVID-19 pandemic. Data collection was from the high school children of selected schools in Kolar Taluk. Data collection was conducted using a pretested semi-structured questionnaire. "Simple random sampling" was done to select the participant schools. 2 Schools each were selected in the rural and urban areas. The design of the research was Cross-sectional and was done among students of co-education high schools in Kolar taluk. All the students in the selected schools belonging to 8th, 9th, and 10th classes were involved. The analysis tools used are the PSS-10 scale for perceived stress, Social Phobia Scale (SPS) for social phobia, and The Lay's Procrastination Scale for measuring procrastination. The study duration was from 30th November 2022 to 31st December 2022. Assuming the stress prevalence in school children to be 50% considered as prevalence (p), "error of 5% with a 95% confidence interval, the sample size" determined was 400 [estimated by Open Epi version 3.01]. Simple Random sampling was used. All data will be put into a Microsoft Excel sheet and analyzed with SPSS v 22. (IBM Corp). The perceived stress scores are positively associated with social phobia scores and procrastination scores and this relationship was observed to be statistically significant. Both social phobia and procrastination were able to predict 89.7% of changes in the perceived stress levels among the participants. Social phobia and procrastination are the predictors of perceived

stress and any intervention for stress should also consider these factors into consideration.

**Keywords:** Perceived stress; Social Phobia; Procrastination; adolescents

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## Introduction

The World Health Organization (WHO) defines a pandemic as global or transnational spread of a disease which influence a significant population. COVID-19 is a recently found coronavirus which passes person to person by droplets. The virus was initially identified in Wuhan, China, in December 2019. In January 2020, an international public health emergency was announced. Alongside other nations, India imposed stringent safeguards on its population to contain the disease's spread. The country shifted from a face-to-face to a virtual educational system, shutting down public gathering areas and imposing travel restrictions and curfews. Recent outbreaks, like SARS (severe acute respiratory syndrome), Ebola, and MERS (Middle Eastern Respiratory Syndrome), have produced specific mental health costs during pandemics, as evidenced by the research.<sup>1,2</sup> Many questions, including how long these online modalities of teaching and learning will be used and how they will affect children's and parent's mental, physical, and social health, have been raised in response to the abrupt change from classroom teaching.<sup>3</sup> One of the major impacts of the COVID-19 pandemic on the educational institutions is its quick global spread.<sup>4</sup>

Perceived stress is an unpleasant emotional experience that results from an individual's perception of an internal or external stressful event, such as exam anxiety or the death of a loved one.<sup>5</sup> Throughout the COVID-19 epidemic, students were extremely susceptible to mental health concerns, and investigators have demonstrated that perceived stress & mental health issues are increased in the pandemic. Studies revealing the incidence of reported stress & mental health issues in students during pandemic suggest a prevalence of greater than fifty per-

cent.<sup>6,7</sup>

Social phobia or SAD (Social Anxiety Disorder) is fear and anxiety of social as well as performance circumstances including exposure to unknown people or the possibility of scrutiny. The individual fears being embarrassed, humiliated, or appraised unfavorably. Epidemiological analysis demonstrated that "SAD" is one of the highly widespread mental diseases, however, it goes untreated and undetected for several years, negatively impacting individual's marriage & social life all over adulthood. SAD has been the topic of very little study, particularly in India, despite being one of the most frequent psychiatric diseases and manifesting at a vital developmental age for adolescents. This research is an attempt to broaden our understanding of this neglected anxiety<sup>8</sup>. In addition, the particular effects of preexisting social phobia on well-being and interpersonal outcomes following the stressful environment of the pandemic among children are unclear at this time.<sup>9</sup>

The life history hypothesis proposes that organisms spend limited energy, resources, and time in response to external restrictions. Life history techniques occur on a continuum from slow to rapid & are controlled by best allocation of energy, resources, and time between reproductive and somatic activities in response to environmental circumstances. A slow life history approach originated in advantageous and predictable conditions; as a result, it encourages the prioritization of actions focused at constructing future, like expanding social and human capital. In contrast, a quicker life history approach emerged in harsh and uncertain conditions where it is ideal to concentrate on present; hence, it is characterized by a preference for strengths oriented towards achieving immediate goals.<sup>10</sup>

Steele described procrastination in students/academics as a purposeful delay in a practical path of learning or study despite the expected deterioration.<sup>11</sup> Various studies showing an increase in procrastination among school children can be related to the elevated levels of uncertainty caused by the pandemic.<sup>10,11</sup>

Given that COVID-19 has effects on mental health, the current research aims to examine whether social phobia and procrastination can serve as predictors for the perceived stress among school children post-COVID-19 period. Currently, there is fewer analysis to our knowledge, that have evaluated social phobia, stress, and procrastination among school children post-COVID-19 pandemic, and very few studies that have tried to relate social phobia and procrastination among school children to their perceived stress.

## Objectives

To find out whether Social Phobia and Procrastination can be predictors of Perceived Stress in the school children of the Kolar post-COVID-19 pandemic.

## Materials & Methods

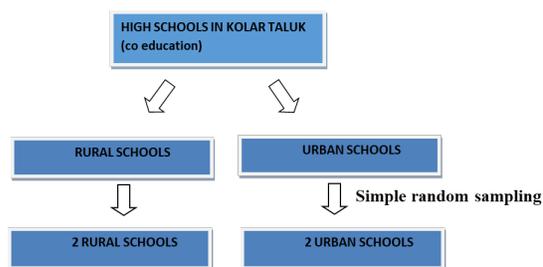
Data collection was done from the high school children of selected schools in Kolar Taluk. A pretested semi-structured questionnaire was utilized for the data collection. “Simple random sampling” was done to select the participant schools. 2 Schools each were selected in the rural and urban areas. The study design adopted was Cross-sectional. All the students in the selected schools belonging to 8th, 9th, and 10th standards were included. PSS-10 was utilized to measure perceived stress. PSS is the utmost utilized psychological tool for evaluating stress perception. It evaluates the extent to which circumstances in one’s life are evaluated as stressful. The PSS includes questions that inquire about emotions and ideas from the previous month. Individual PSS scores can vary between 0 - 40, with the greatest levels indicating more perceived stress. Scores ranged between - “0 to 13 will be considered low stress; 14 to 26 will be considered moderate stress; 27 to 40 will be considered as high perceived stress”.<sup>5</sup>

For measuring social phobia - SPS (Social Phobia Scale)- is used. It is a 20-item self-report test used to assess social phobia in teens (13+) and adults. At 4 and 12 weeks, the SPS exhibits strong internal consistency and test-retest reliability. As output, a raw total score between 0 and 80 is provided, with higher values indicating higher anxiety about being noticed or inspected.<sup>12</sup>

For measuring Procrastination- The Lay’s Procrastination Scale is a “5-point Likert scale”, comprising 20 items, thus for every item, response alternatives varied from extremely uncharacteristic to extremely characteristic. Scores of all items are determined depending on following order: “1 = Extremely Uncharacteristic 2 = Moderately Uncharacteristic

3 = Neutral 4 = Moderately Characteristic 5 = Extremely Characteristic”. Procrastination score can be Low (0-3), Moderate (4-7), or High (8-17).<sup>13</sup>

The study duration has been from 30th November - 31st December 2022 during which classes were offline. Assuming the stress among school children to be 50% is considered as prevalence (p), with an “error of 5% with a 95% confidence interval, the sample size” calculated was 400 [estimated by Open Epi version 3.01]. Sampling method used was Simple Random sampling. From the list of coeducation rural High schools in Kolar taluk obtained from the Deputy Director of Public Instructions (DDPI) office, Kolar will select 4 schools (2 Rural and 2 urban schools) by simple random technique.



**Fig 1.** Flow chart depicting the participant’s recruitment and study procedure

## Analysis & Statistical Methods

All data was entered into an MS- office excel sheet, and examined with SPSS v 22(IBM Corp). Descriptive statistics was done for the baseline data. Chi-square analysis was used, with significance level defined as p-value less than 0.05, to look for any associations between the components. Regression analysis was used to evaluate whether social phobia and procrastination can be predictors of perceived stress.

## Results

A total of 400 students were involved in this analysis. 41.8% students were from the 8<sup>th</sup> standard. Most of the participants (56%) were 13 years of age. 50.7% were females and 77.3% belongs to the Hindu religion. 47% of the students were 2<sup>nd</sup> born children in their family. 46% were having 1 sibling in their family. 53.5% were hailing from joint families. 50.5% of the students belong to lower middle class according to “modified BG prasad’s classification”. 23.7% participants reported they are practicing meditations and the majority were practicing meditations weekly. (Table 1)

The mean perceived stress scores, social phobia scores, and procrastination scores of the participants are 17.63,35.99, and 53.37 respectively. (Table 2)

**Table 1. Distribution of participants based on various sociodemographic characteristics and practice of meditation**

Sociodemographic characteristics		Number (Percentage)
Student's class	Class X	126 (31.5%)
	Class IX	107 (26.8%)
	Class VIII	167 (41.8%)
	Total	400 (100%)
Age (in years)	13	48 (12.0%)
	14	224 (56.0%)
	15	128 (32%)
Gender	Female	203 (50.7%)
	Male	197 (49.3%)
Religion	Hindu	309 (77.3%)
	Muslim	88 (22.0%)
	Others	3 (0.7%)
Number of siblings	0	29 (7.2%)
	1	184 (46.0%)
	2	115 (28.7%)
	3	54 (13.5%)
	>3	18 (4.5%)
Birth order	Firstborn	181 (45.3%)
	Second born	188 (47.0%)
	Third born	31 (7.7%)
Type of family	Joint family	214 (53.5%)
	Nuclear family	186 (46.5%)
Per capita income of family (Modified BG PRASAD'S classification)	Lower (V)	53 (13.3%)
	Lower middle (IV)	202 (50.5%)
	Middle (III)	65 (16.3%)
	Upper middle (II)	70 (17.5%)
	Upper (I)	10 (2.5%)
Practice of Meditation	No	305 (76.3%)
	Yes	95 (23.7%)
Frequency of meditation	Daily	39 (41.2%)
	Weekly	45 (47.3%)
	Monthly	11 (11.5%)

**Table 2. Table showing the mean scores for perceived stress, social phobia, and procrastination**

	PSS score	Social Phobia Score	Procrastination Score
Mean	17.63	35.99	53.37
Std. Deviation	4.595	10.018	13.617

**Table 3. Association between various sociodemographic factors and practice of meditation with mean scores of perceived stress, social phobia, and procrastination**

Class		PSS Score	SPH Score	Procrastination Score
X	Mean	18.57	37.14	55.71
	Std. Deviation	4.586	9.172	13.758
IX	Mean	16.79	33.59	50.38
	Std. Deviation	4.611	9.222	13.832
VIII	Mean	17.45	34.90	52.35
	Std. Deviation	4.493	8.986	13.480
p-value*		0.01	0.04	0.04
Sex				
Male	Mean	17.50	34.99	52.49
	Std. Deviation	4.320	8.639	12.959
Female	Mean	17.75	35.51	53.26
	Std. Deviation	4.855	9.710	14.566
p-value*		0.02	0.04	0.001
Practice of Meditation				
No	Mean	17.89	35.78	53.67
	Std. Deviation	4.681	9.361	14.042
yes	Mean	16.79	33.58	50.37
	Std. Deviation	4.225	8.450	12.674
p-value*		0.001	0.001	0.02

\*ANOVA test

The 10<sup>th</sup>-standard students compared to the 8<sup>th</sup> and 9<sup>th</sup>-standard students are having high mean scores for perceived stress, social phobia, and procrastination and this association was statistically significant. Compared to males, females are having high mean scores in perceived stress, social phobia, and procrastination and this association was statistically significant. When comparing students who are practicing meditations those who are not practicing meditations are having high mean perceived stress, social phobia, and procrastination scores. (Table 3)

The perceived stress scores are positively associated with social phobia scores and procrastination scores and this relation was observed to be significant statistically. (Table 4)

Both social phobia and procrastination were able to predict 89.7% of changes in the perceived stress levels among the participants. (Table 5)

**Table 4. Regression analysis showing the association between perceived stress with social phobia and procrastination scores**

Model	Unstandardized Coefficients		Standardized Coefficients	t	p-value
	B	Std. Error	Beta		
(Constant)	0.401	0.3		1.3	0.183
1 Social Phobia Score	0.081	0.01	0.176	6	<b>0.001</b>
Procrastination Score	0.268	0.01	0.796	27	<b>0.001</b>

a. Dependent Variable: PSS score

**Table 5. Regression model summary**

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. Error of the Estimate
1	.948 <sup>a</sup>	.898	.897	1.473

a. Predictors: (Constant), Procrastination Score, SPH Score

## Discussion

This analysis is the 1<sup>st</sup> study to investigate the perceived stress level among school-going children during COVID-19 and its association with social phobia and procrastination. Students were included from both urban and rural areas of Kolar Taluk. The mean score of perceived social phobia, stress scale, and procrastination in this study was 17.63, 35.9 and 53.3 respectively. These analyses are compared to those from previous international as well as national study done in Iran<sup>14</sup>, Malaysia<sup>15</sup>, and India<sup>16,17</sup>. This research, however, involved college students in highly competitive fields. Recently, several research that assessed mental health of college students throughout COVID-19 in China<sup>18</sup> and Spain<sup>19</sup> and reported depression, stress, and anxiety came up with similar findings. Due to shortage of interpersonal connection in social distance, these psychological reactions may likely to deteriorate and manifest.<sup>20,21</sup> It has also been demonstrated that problems with academics, money, and social relationships are associated with stress, which is connected to distance learning.<sup>22</sup> It's possible that students had trouble navigating the online format. This covers their technological aptitude, having enough resources at home to support online learning, and having a reliable internet connection.<sup>23</sup> Earlier analyses on influence of pandemic on mental health looked at wide populations in various regions of world.<sup>24,25</sup> The emergence of virus and installation of abrupt control measures might result in extreme anxiety as well as social isolation, whereas a lack of understanding about infectious diseases may promote widespread panic.<sup>2</sup> The innovation of infection as well as uncertainty and unpredictability of when the situation would be completely in control have caused people to experience extreme stress, particularly when "face-to-face social connections" has been lost.<sup>26,27</sup> People who are afflicted with virus or are suspected of having received the sickness fear that it might be deadly.<sup>30</sup> In our study, children in the 10th grade had considerably greater stress levels than students in the 9th

and 8th grades. This is likely due to the fact that 10<sup>th</sup>-standard students are having their final exams and this will determine their future carrier course.<sup>28</sup> Other stress sources comprise frequency and performance on exams, parental pressure, broad curriculums, and loneliness.<sup>29</sup> Lastly, female students reported considerably elevated stress levels. Similar outcomes were reported in prior comparable polls.<sup>15,18,20,30</sup> Several causes, comprising hormonal changes and the expression of ideas and emotions regarding social condition, have been related to the high levels of stress among women.<sup>31</sup> Also practice of meditation was reported by 23.7% of the participants, and they had fewer mean scores for perceived stress, social phobia, and procrastination compared to those who do not practice meditation. This relationship between stress and meditation along with other psychological problems is already well established and our study results also are in alignment with the same.

Also, in our study social phobia and procrastination were able to predict 89.8% of the changes in perceived stress scores. This shows that social phobia and procrastination are the most important predictors of perceived stress among adolescents and any interventions that are targeting the perceived stress should also be targeting social phobia and procrastination. Research observing at COVID-19 impact in college students observed a decrease in time of study & enhancement of academic procrastination. The virtual learning nature from home also promotes procrastination since it requires students to exercise greater degrees of self-control to overcome solitary learning and the difficulties of online learning in addition to having to withstand distractions at home (like, social media and television). Together, this research showed that procrastination levels during pandemic were greater than usual and our study also shows the same.

The prevalence rate of social phobia was 5.3% in 13 to 17-year adolescent students in research conducted at Tiruchirappalli.<sup>32</sup> Many analyses on social phobia has been conducted in "community-based samples" that generally yield high rates as children with SAD have greater school dropout rates. Research that has utilized a lifetime prevalence or one-year prevalence would have yielded greater rates. Our study has shown that those with higher mean perceived stress scores also have higher scores on social phobia.

## Limitations

The study depends on self-reported information that may be affected by participants' interpretation of the items or their tendency to report their emotions in a certain manner. Finally, the cross-sectional design precludes the ability to make causal conclusions.

## Conclusions

Social phobia and procrastination are the predictors of perceived stress and any intervention for stress should also consider these factors into consideration. The higher prevalence of stress along with higher mean scores in social phobia and procrastination can harm the students and it needs the urgent attention of the authorities.

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