



Resilience and Public Speaking Anxiety in the context of COVID-19 in University Students

¹**Angel Gupta**, *Master of Arts, Applied Psychology, Amity Institute of Psychology and Allied Sciences, Amity University, Noida*

angelgupta2222@gmail.com

²**Dr. Kaushlendra Mani Tripathi**, *Associate Professor, Amity Institute of Psychology and Allied Sciences, Amity University, Noida*

kmtripathi@amity.edu

Abstract: This research explored the correlation between resilience and public speaking anxiety (PSA) among university students amidst the COVID-19 pandemic. The research examined how resilience counters public speaking anxiety and how resilience varies in various online learning groups in students amidst the COVID-19 pandemic. This was conducted through a cross-sectional study design in which 198 university students from Delhi and Noida universities filled self-report resilience and PSA measures. Against expectations, findings indicated a statistically significant though weak positive relationship between resilience and PSA ($r = .152$, $p < .05$). Findings of regression analysis of the effect of resilience on PSA validated resilience as an important predictor of PSA scores ($R^2 = .023$, $p = .033$), but with minimal effect size. Paradoxically, learners who had longer exposure to online learning (>2 years) had higher scores for resilience. These findings suggest that resilience and anxiety are not mutually exclusive, and longer exposure to stressors in learning may induce healthy coping mechanisms. The research emphasizes the strength of understanding resilience as an evolving capacity, rather than a persistent trait, and the significance this has for student well-being in face-to-face and online learning environments. Teaching interventions founded on resilience may be more positive strategies for dealing with performance pressure in classrooms than reducing anxiety itself.

Keywords: *Resilience, Fear of Public Speaking, University Students, COVID-19, Online Learning, Psychological Adjustment, Higher Education.*

1. Introduction

Resilience is the ability to adapt and rebound from adversity. In this context, it becomes important for university students navigating the academic and emotional stress brought on by the COVID-19 pandemic. Public speaking anxiety (PSA), in association with resilience, is also important to study. PSA is a common type of social anxiety, often affects students' confidence and academic performance, and these feelings were amplified in virtual settings, where unfamiliar platforms and a lack of real-time feedback added to the pressure. This study will be exploring the relationship between these factors but first the introduction will elaborate upon the background of the topic, research problem, research aims, objectives and questions, significance, limitations of the study and outline.

1.1 Study Background

Resilience has become a defining variable in the students' wellbeing effect in the context of COVID-19 pandemic. The shift to online learning created unparalleled disturbance for students, for whom resilience had become a coping mechanism and a determinant of academic engagement, emotional regulation, and performance under pressure (Labrague, 2021; Chen & Lucock, 2022).

While public speaking anxiety (PSA) is still among the most common forms of social anxiety in university students (Bodie, 2010), having emerged in a pandemic environment has transformed the nature of PSA. Typically characterized as increased physiological arousal, fear of negative evaluation, and avoidance (Dwyer & Davidson, 2012), PSA has been multiplied in new forms via virtual learning environments—adding in factors like camera fatigue, lack of real-time feedback, and higher levels of self-awareness (Grieve et al., 2021). However, despite such stressors, relatively more resilient students showed greater adaptability and confidence in performing tasks related to communication, for example, public speaking (Chen & Lucock, 2022).

This contribution is concerned with the role of resilience in the experience of public speaking anxiety (PSA), particularly with how resilience may impact on and mediate PSA. Prior research (e.g., Richardson (2002), resilience has been defined as an adaptive quality contingent on both internal characteristics and extrinsic support mechanisms, like peer networks or how systems react under stress. Those students who were able to reframe adversity, stay motivated, and engage

in adaptive coping strategies showed higher resilience levels during the COVID-19 pandemic (Labrague, 2021).

Despite this emerging awareness, few studies have addressed explicitly how resilience and PSA intersect with one another—particularly in the context of online learning. This gap is significant. What it indicates is that teaching resilience may be the more powerful tool for helping students than attempting to alleviate symptoms of anxiety alone.

Therefore, this study aims to consider resilience as an adaptive and protective factor of interest in university students' experiences with PSA during and after the pandemic. By answering this gap, the study wants to show how resilience can be promoted and deployed to support the mental health and performance of students on high-stakes academic tasks like public speaking.

The pandemic of COVID-19 saw a sudden rise in anxiety and other mental illnesses among the students. Santomauro et al. (2021) in their study pointed to a global increase in anxiety disorders by 25.6% among university students being especially hit through prolonged social isolation, study interference, and sudden shift to online classes. Also, Alesi et al. (2023) also emphasized that this transition heightened emotional exhaustion and reduced academic self-efficacy, most particularly for students with weak adaptive strengths. These changes not only increased overall concern, they intensified specific phobias, such as public speaking anxiety (PSA), because students had to perform on new computer systems with less social feedback and more self-awareness (Grieve et al., 2021).

Research conducted during the pandemic identified that the resilient students were best capable of dealing with academic as well as emotional stress. Labrague (2021) found that higher and improved resilience had a relationship with lower anxiety levels in online classes. Similarly, Chen and Lucock (2022) identified in their study that resilience improved the motivation and emotional management of students in a time of uncertainty. These findings suggest that resilience plays a bigger role in helping students adapt than simply reducing anxiety alone.

So, while PSA remains a real challenge, resilience appears to be the stronger, more consistent factor influencing how students manage communication stress after the pandemic. Supporting resilience in academic settings is key to helping students feel more prepared and confident, whether they're presenting online or in person.

1.2 Research Problem

Although public speaking anxiety (PSA) has been a well-documented phenomenon amongst university students, the interaction between PSA and resilience, especially in the context of the COVID-19 pandemic, is relatively under-researched and unexplored. So, this study will focus on exploring this area that has been unexplored. This research examines how the shift to virtual learning environments has affected students' experience of PSA, and more importantly, how the role of resilience is relevant in coping and alleviating such anxiety.

1.3 Research Aims, Objectives, and Questions

The main purpose of this research is to explore the relationship between resilience and public speaking anxiety (PSA) in university students within the context of the COVID-19. Specifically, it tries to investigate the extent and intensity of fear of public speaking among university students, particularly in the context of remote and blended learning trends caused by the COVID-19 pandemic. The research further seeks to determine how online learning durations affect resilience levels in students. Of specific concern to this research is the function of resilience as a buffer against fear of speaking in public. By examining how resilience influences students' coping with performance stressors, the study determines if the level of resilience significantly differs by the level of their online learning experience since the start of the pandemic. Finally, the study proposes to provide recommendations to teachers, counselors, and mental health providers on how they can increase the coping ability of students and readiness in terms of psychology for speaking publicly in the traditional and web-based classrooms.

1.4 Research Significance

This research is important to understand how anxiety influences students' perception since it highlights an increased awareness of how resilience functions as a buffer for university students suffering from public speaking anxiety (PSA), especially within the context of the COVID-19 pandemic-mediated digital learning. During this time, anxiety disorders, most notably performance-related ones—have witnessed a surge. Therefore, the focus on understanding the adaptive capacity of students becomes more pertinent. While symptom relief has been the focus of conventional research for PSA in isolation, this study redirects attention towards building resilience as a proactive, long-term approach to mental and academic achievement. Results of the present study can guide mental health practitioners, educators, and institutions of higher learning in the planning of interventions that minimize anxiety while also preparing students to handle pressure situations in a positive manner in both online and offline public speaking contexts. In

addition, the findings will also inform curriculum planners and policymakers in designing emotionally intelligent and flexible learning environments that value flexibility and emotional intelligence.

1.5 Study Limitations

Every study has limitations. The limitations of this study are: Firstly, the sample may not be representative of all university students as it may reflect only the situation of students belonging to disciplines and institutions. Secondly, since the research is based on self-report measures, responses may be biased toward social desirability or limited self-awareness. Also, a limitation is the rapidly evolving post-pandemic university environment, which continues to evolve between face-to-face, hybrid, and online learning models—making the results time-bound and context-specific. Lastly, any other unexplored variables that can affect PSA-resilience relations, for instance, personality factors, ease of access to support systems, or prior psychiatric illnesses, do exist but have been unexplored in this study.

2. Literature Review

The purpose of this study is to understand the relationship between public speaking anxiety and resilience in the context of COVID-19 in university students. The focus of this section is on establishing theoretical background, reviewing relevant literature, and identifying gaps in existing research.

2.1 Theoretical Framework

The aim is to comprehend how public speaking anxiety and resilience relate to each other and for that it is essential to examine the underlying psychological theories on which these constructs are shaped.

Public Speaking Anxiety (PSA) is a particular type of social anxiety that involves extreme fear or worry about speaking to a crowd. Based on the Cognitive-behavioral theory (Beck, 1976), any form of anxiety, especially PSA in this context, is related to maladaptive thinking patterns, such as catastrophizing failure or anticipating negative judgment. Bandura's (1997) theory of self-efficacy is also particularly relevant—PSA would cause more issues for students with low self-esteem, specifically students who engaged in online learning environments.

Resilience, or the ability to bounce back from stress or adversity, borrows from resilience theory (Richardson, 2002) to the extent that resilience is a product of disruptions to one's

homeostasis of bio-psycho-spiritual nature and is enabled by reintegration of coping. Furthermore, Bronfenbrenner's (1979) ecological systems theory notes that resilience is developed from the dynamic interaction of an individual with his or her environment (support networks, social organizations, and institutional systems).

During the COVID-19 pandemic, students had spent more time isolated, with interrupted schedules, and academic uncertainty. All these elements strained their coping capacity and affective resources. Thus, resilience proved to be quite vital and performed like a psychological safety net for students. Certain recent studies established that students possessing greater levels of resilience were better equipped to cope with online learning and deal with stress. But even when students are back in hybrid or face-to-face classes, performance anxiety continues to appear. This indicates that anxiety and resilience are not necessarily opposing or direct relations (Chen & Lucock, 2022; Labrague, 2021).

Research by Öztürk et al. (2021) and Marinho et al. (2017) indicates that public speaking anxiety (PSA) is a chronic and pervasive issue among university students, even those who are more resilient on measures. Öztürk et al. observe that PSA is not merely a transient nuisance; it is a deeply entrenched psychological issue that can disrupt academic performance and self-esteem. Similarly, Han et al. (2021) found that although resilience is a buffer in managing stress, it may not necessarily nullify anxiety entirely—especially when students are faced with novel or high-stakes situations, such as speaking in public. Whilst Öztürk et al. explored virtual reality exposure therapy as a potential method of PSA reduction, the applicability of their study is in reaffirming the long-term impact of PSA within schools and the necessity of targeted psychological support.”

Because of this, the theory behind this study is built on the idea that resilience usually helps reduce anxiety, but its exact role in public speaking anxiety, especially during the COVID-19 period, hasn't been fully understood. That's why this study looks at whether students who developed more resilience during the pandemic also experienced less PSA—or if resilience and anxiety can exist together because of the pressure students feel to perform well, especially after remote learning.

The pandemic of COVID-19 brought psychological challenges more apparent in the context of education. This was supported by Santomauro et al. (2021), who established that depression and anxiety increased globally because of social interference brought about by the pandemic.

Resilience has also been a much-discussed theme in scholarly research, particularly with the pandemic. Labrague's (2021) and Chen and Lucock's (2022) studies revealed that resilience assisted students in coping with the stress induced by abrupt shifts in learning. Remarkably, their research implies that remote learning may have facilitated students becoming more independent and equipped with better coping mechanisms.

Other researchers have explored factors that contribute to building resilience among students. Fredrickson's (2001) broaden-and-build theory posits that positive emotions expand individuals' thought-action repertoires, leading to the development of enduring personal resources, including resilience. Building upon this, Ong and Thompson (2022) applied the theory to educational settings, demonstrating that cultivating positive emotions can enhance students' emotional strength and adaptability in academic environments. Similarly, Chaturvedi et al. (2021) emphasized the combined role of individual efforts and institutional support in fostering resilience among university students, highlighting the importance of both personal initiative and supportive educational frameworks.

But it's becoming clearer that resilience doesn't always mean less anxiety. Students may be resilient and anxious all at once. This is further evidenced by Bronfenbrenner's (1979) thesis that resilience largely relies on circumstances and does not always safeguard people in an identical manner.

2.2 Empirical Rationale and Research Gap

Understanding how resilience relates to public speaking anxiety (PSA) in university students, especially after the COVID-19 pandemic, is critical. PSA is one of the most common types of social anxiety in students and often affects their performance and confidence as a university student (Bodie, 2010; Dwyer & Davidson, 2012). While this kind of stress usually occurs in face-to-face settings, the shift to online classes brought other challenges like continuous on-camera awareness, decreased nonverbal cues, and emotional fatigue from being in front of a computer screen for hours at a time (Grieve et al., 2021; Spantig & Renner, 2022).

The pandemic also led to a global mental health crisis. With isolation, uncertainty, and educational disruptions, anxiety and stress increased for students around the world (Santomauro et al., 2021). Public speaking, which was already stressful for many, became even more difficult when moved to a virtual format. During this time, resilience became an important psychological strength. Several studies have pointed out that resilience helps reduce academic stress and anxiety

(Labrague, 2021; Chen & Lucock, 2022). According to resilience theory (Richardson, 2002) and ecological systems theory (Bronfenbrenner, 1979), resilience isn't fixed—it changes depending on the environment, and the pandemic was a real test of students' ability to adapt.

Although resilience has been linked with lower stress levels in academic settings (Arslan, 2016; Labrague, 2021), not many studies have looked at how it connects specifically to public speaking anxiety, especially after the pandemic.

Also, the amount of time students spent on online learning might have had different effects. For some, it could have increased stress. For others, it might have helped them build up their coping skills. Research shows that going through new challenges again and again can make people stronger in the long run—a process known as the “steeling effect” (Seery et al., 2010; Klohnen, 1996). That's why this study looks at students' resilience in connection with how long they experienced online learning.

This research addresses a few key gaps in past studies:

1. It takes a closer look at how the resilience and PSA of university students has changed after COVID-19.
2. It explores whether students' resilience is related to how long they've studied online.
3. It challenges the simple idea that resilience always lowers anxiety by considering that the two might exist together, especially when students are under pressure to perform.

In conclusion, all the above-mentioned research points to a complicated and dynamic relationship between resilience and Public Speaking Anxiety. This study aims to explore How these two traits are related, especially in the context of university students at various online learning duration levels.

3. Methodology

3.1 Aim

The aim of this study was to examine and explore the relationship between resilience and public speaking anxiety (PSA) among university students in the context of online learning in the context of COVID-19 pandemic.

3.2 Research Objectives

1. To explore the relationship between psychological resilience and public speaking anxiety among university students.

2. To determine whether resilience can predict the level of public speaking anxiety in students.
3. To explore whether the duration of online learning affects students' resilience levels.
4. To offer practical recommendations for educators and mental health professionals to help students manage public speaking anxiety more effectively.

3.3 Hypotheses

1. There will be a statistically significant relationship between resilience and public speaking anxiety.
2. Resilience will significantly predict public speaking anxiety scores in a regression model, indicating that students with higher resilience scores will differ in their levels of public speaking anxiety.
3. Students exposed to extended durations of online learning exhibit significantly elevated resilience scores.

3.4 Variables

Independent Variable: Psychological Resilience (measured by the RS-25)

Dependent Variable: Public Speaking Anxiety (measured by the PSAS)

Grouping Variable: Duration of online learning during the COVID-19 pandemic (1 semester, 1 year, 2 years, more than 2 years)

3.5 Research Design

A quantitative, correlational research design was used to assess the correlation between public speaking anxiety and resilience. The design was used to statistically examine the strength and direction of associations between study variables through psychometrically supported tools.

3.6 Sampling Method and Technique

A simple random sampling technique was used, targeting students in universities within Delhi and Noida, India. The population was geographically bounded within these two city academic centers to ensure clarity in sampling and consistency in the educational environment. Although data collection occurred in the post-pandemic period (2025), when there were no official COVID-19 restrictions in place, participants were selected randomly from a broader pool of students who met the inclusion criteria. Recruitment was carried out through both online platforms (e.g., social media such as WhatsApp) and in-person outreach across university campuses.

A total of 198 participants were included in the sample, all of whom had completed a minimum of one semester of online studies during the COVID-19 pandemic and were currently enrolled in undergraduate, postgraduate, diploma, doctoral, or other academic programs. While simple random sampling enhances the representativeness of the sample and strengthens the generalizability of findings, it was also well-suited for this study due to the broad and diverse student population accessible in Delhi and Noida who directly experienced pandemic-induced academic transitions.

3.7 Sample Size

The final sample included 198 university students. This number was considered more than enough for the type of analysis used in this study. In general, researchers suggest that for studies examining the relationship between two variables (like this one), a sample of at least 85 people is needed to find results that are meaningful and reliable. Since this study included 198 participants—more than double the recommended number—it provides a solid base for drawing conclusions with confidence.

3.8 Participants

A total of 198 university students (M age = 20.5, SD = 1.8; 60% female) were recruited from higher education institutions across India using a convenience sampling method. Eligibility criteria included current enrollment in an academic program and experience with at least one semester of online learning during the COVID-19 pandemic.

3.9 Data Collection Methods

Quantitative data collection methods were used in the study. A structured self-report questionnaire was collected via Google Forms, which consisted of standardized psychometric measures to measure the primary variables. The link for the survey was sent via WhatsApp groups and also distributed personally during campus visits to enhance participation. The digital surveys facilitated wider reach and effective data collection within a limited time frame. The mean time taken to fill out the survey was around 10 minutes. All the participants gave informed consent before starting the questionnaire.

3.10 Materials

Public Speaking Anxiety Scale (PSAS; Bartholomay & Houlihan, 2016): 17 items rated on a 5-point Likert scale (1 = never to 5 = always), measuring emotional and physiological reactions to public speaking. Internal consistency in this sample was high ($\alpha = .89$).

Resilience Scale (RS-25; Wagnild & Young, 1993): 25 items with a 7-point scale (1 = strongly disagree to 7 = strongly agree), assessing the capacity to adapt constructively to stress. Cronbach's alpha was .91.

3.11 Procedure

The data was collected via an online survey which was shared with university students via whatsapp and in-person means. Surveys were administered using Google Forms. The completion time was approximately 10 minutes. All procedures received approval from the university guide.

3.12 Data Analysis

For data analysis, IBM SPSS Statistics Version 20 was used. Firstly, descriptive statistics (means, standard deviations) for all PSAS and Resilience Scale scores were calculated to present central tendencies and variability within the sample. Pearson's correlation was employed to determine the strength and direction of the linear association between resilience (RS) and public speaking anxiety (PSAS) scores. It was employed to determine the association between the continuous variables.

For predictive relationship analysis, simple linear regression was applied to determine if resilience strongly predicts PSAS scores. The approach was utilized since it allows estimation of the degree of variance explained in one variable (PSAS) by another (RS) and the generation of interpretable coefficients for effect size.

To evaluate the differences between the various online learning groups (1 semester, 1 year, 2 year, and more than 2 years), one-way analysis of variance (ANOVA) was used. This method is appropriate for comparing more than two independent groups' means. To determine whether the significant differences were between certain pairs of groups, post hoc comparisons were made employing Tukey's Honest Significant Difference (HSD).

4. Results

The present chapter introduces and discusses the research findings of the study, focusing on the relationship between resilience and public speaking anxiety (PSA) among university students, more specifically, the situation of long-term online learning amid the COVID-19 pandemic. A cross-sectional design was adopted, and the data were gathered using two standardized instruments: the Public Speaking Anxiety Scale and the Resilience Scale.

Students were surveyed on their experience levels by the amount of time they spent doing online learning—spending from one to more than two years. Both descriptive statistics and inferential statistics were employed in analyzing the data. Descriptive statistics served to bring out overall trends in resilience and PSA scores, whereas inferential techniques such as correlation, regression, ANOVA, and post hoc tests were employed to test hypotheses of the research. Results were presented in neat tables and summaries in accordance with the research goals.

Before diving into the descriptive and inferential statistics, it's important to first outline some key aspects of how the data was collected and prepared for analysis. These details help provide context for understanding the results that follow:

4.1 Participant Flow and Recruitment

Participants were recruited from September to October 2024 via university mailing lists and student portals. A total of 204 university students initially agreed to participate in the study. Nevertheless, 6 participants were dropped from the final analysis for different reasons: 2 had just finished their classwork and were yet to obtain admission, 2 had taken a gap year, and 2 did not qualify as the target population for the study. Following these exclusions, the final sample utilized for analysis comprised 198 participants (Mean age = 20.5, SD = 1.8; 60% female).

4.2 Missing Data and Exclusions

Out of the 204 participants who initially consented to participate in the study, six participants were excluded from the final analysis. These exclusions were due to missing more than 10% of survey items, incomplete key demographic data, or ineligibility based on inclusion criteria (e.g., students still in transition or having taken a gap year). No imputation methods were applied, and the final sample of 198 participants met all inclusion criteria and passed attention checks.

4.3 The Hypotheses with the results are as follows;

1. **H1:** A statistically significant relationship exists between resilience and public speaking anxiety.
2. **H2:** Resilience will significantly predict public speaking anxiety scores in a regression model, indicating that students with higher resilience scores will differ in their levels of public speaking anxiety.

A Pearson correlation was conducted to assess the relationship between total resilience and public speaking anxiety scores. Results revealed a statistically significant but weak positive

correlation ($r = .152, p < .05$), indicating that as resilience scores increase, public speaking anxiety also slightly increases. Although this direction was unexpected, the relationship supports Hypothesis 1.

Table 1: *Pearson Correlation Between Total Resilience and Public Speaking Anxiety (supports H1)*

Variables	1	2
1. Total_PSAS	1	.152*
2. Total_RS	.152*	1

$N = 198$. Correlation is significant at the 0.05 level (2-tailed).

A simple linear regression was conducted to examine whether resilience significantly predicts public speaking anxiety scores. Results showed that resilience was a statistically significant predictor, $F(1, 196) = 4.63, p = .033$, though it accounted for only 2.3% of the variance in public speaking anxiety scores ($R^2 = .023$), indicating a small effect size.

Table 2: *Regression Analysis Predicting PSAS from Resilience (supports H1 and H2)*

Model	R	R ²	Adj. R ²	Std. Error	Sig. F Change
Resilience Predictor	.152	.023	.018	13.56	.033

Note: $p < .05$. Resilience significantly predicts PSAS, though with a small effect.

Note: $R = .152, R^2 = .023, \text{Adjusted } R^2 = .018, F(1, 196) = 4.63, p = .033$. The model indicates that resilience significantly predicts public speaking anxiety, supporting Hypothesis 2. However, the effect size is small, explaining approximately 2.3% of the variance in PSAS.

H3: Students exposed to extended durations of online learning exhibit significantly elevated resilience scores.

To find out the third hypothesis, Descriptive Statistics, ANOVA, and Post Hoc tests were used.

Table 3: *Descriptive Statistics for Total PSAS and Total RS by Online Learning Duration (supports H3)*

Online Learning Duration	N	Mean PSAS	SD PSAS	Mean RS	SD RS
1 Semester	32	46.50	13.23	118.72	27.26
1 Year	83	49.29	11.35	123.28	29.44
2 Years	75	50.40	14.36	128.77	25.79
More than 2 Years	8	53.38	27.22	150.63	31.91

Total	198	49.42	13.69	125.73	28.34
--------------	-----	--------------	-------	---------------	-------

Table 3 presents descriptive statistics for Public Speaking Anxiety Scale (PSAS) and Resilience Scale (RS) scores across groups categorized by the duration of online learning. Students with more than two years of online learning reported the highest resilience ($M = 150.63$, $SD = 31.91$). PSAS scores varied across groups but did not show statistically significant differences in this preliminary overview.

Table 4: *One-Way ANOVA for Resilience (RS) by Online Learning Duration (supports H3)*

Source	SS	df	MS	F	p
Between Groups	7725.16	3	2575.05	3.32	.021
Within Groups	150450.12	194	775.52		
Total	158175.27	197			

Note: The differences in resilience across groups were statistically significant ($p < .05$).

Table 5: *Tukey HSD Post Hoc Comparisons for Resilience (RS) Scores (supports H3)*

Comparison	Mean Diff	SE	p	95% CI Lower	Upper
1 Semester vs. >2 Years	-31.91*	11.01	.022*	-60.43	-3.38
1 Year vs. >2 Years	-27.35*	10.31	.043*	-54.06	-0.63

Note: Only significant comparisons are reported. Students with over two years of online learning scored significantly higher in resilience compared to those with shorter durations.

The findings confirmed all the hypotheses of this research. For the first hypothesis, there was a significant but weak positive correlation between resilience and fear of public speaking ($r = .152$, $p < .05$). Regression analysis also established that resilience was a predictor of public speaking fear scores, $F(1, 196) = 4.63$, $p = .033$, explaining about 2.3% of the variance which only explained hypothesis 2. Although the effect size was minimal, the results indicate that resilience is a measurable factor in the prediction of the level of anxiety in relation to public speaking.

For Hypothesis 3, one-way ANOVA revealed a significant difference in resilience scores between groups divided by online learning duration, $F(3, 194) = 3.32$, $p = .021$. Post hoc tests (Tukey HSD) revealed that students with more than two years of online learning had significantly higher resilience scores than those with shorter durations. However, since public speaking anxiety

scores varied between these groups, differences were not statistically significant, suggesting that prolonged exposure to online learning may impact resilience as opposed to public speaking anxiety more.

A second hypothesis proposed that fear of public speaking would vary significantly by length of online coursework. The one-way ANOVA was conducted to test this assumption, but the result was insignificant, $F(3, 194) = 0.837, p = .475$. This hypothesis was eliminated and deleted from final interpretation and discussion accordingly.

5. Discussion

This study was done to explore the relationship between resilience and public speaking anxiety in the context of COVID-19 in university students. The primary focus was on the impact of online learning duration on the resilience levels of university students and how resilience and public speaking anxiety were related. The findings of this study supported the objectives and hypotheses that were initially formed. However, one initial hypothesis was removed as the results did not support that finding or prove to be significant. The hypothesis was that students with longer durations of online learning would exhibit greater public speaking anxiety, but the results were found to be not significant. Therefore, the research framework was revised, and the focus was shifted towards resilience as an indicator of statistically significant differences across groups.

The rest of the results were as follows;

1. A weak but statistically significant positive correlation was found between resilience and public speaking anxiety ($r = .152, p < .05$).
2. Regression analysis indicated that resilience significantly predicted public speaking anxiety scores, though it accounted for a small proportion of variance ($R^2 = .023$).
3. A significant difference in resilience scores was observed across students with varying durations of online learning, with those exposed to more than two years of online learning reporting the highest resilience levels.

5.1 Interpretation of these Findings

In the results, it is observed that resilience has a weak positive correlation with PSA among university students. The weak positive correlation means that resilience and anxiety do coexist, as opposed to resilience just defending against anxiety. Students may indeed be anxious when in high-stress situations such as public speaking, but their resilience ensures that they cope with it.

Even though the regression test showed that resilience can predict PSA, the effect size was somewhat small. What this implies is that while resilience is at play, it's not the only explanation. Anxiety, especially PSA, is complex. It may be caused by so many things—someone's personality, their history, their confidence level, or even their location. Therefore, it's not surprising that resilience isn't the complete picture.

Among the findings was that students with greater time spent in pandemic online learning had greater resilience scores. This is supportive of the hypothesis that increased exposure to online learning may have facilitated student development of self-regulation, autonomy, and flexibility—key components of psychological resilience. This theory is consistent with the "steeling effect" referenced by Seery et al. (2010), which states that repeated exposure to adversity strengthens a person's emotional resilience in the long run. Thus, enduring several semesters of distance learning might have emotionally prepared some students better to deal with stress.

These results are in line with several studies previously discussed. Chen and Lucock (2022) and Labrague (2021) found in their studies that students who were more resilient were able to cope better with pandemic stress and adjust to learning online. But what is interesting in this study is that it did not establish any negative relationship between resilience and PSA, something that most previous studies would have expected. Indeed, Tugade and Fredrickson (2004) explained that resilience is an antidote to reducing anxiety, but our evidence debunks the concept somewhat. In this context, students here appeared to be both resilient and anxious simultaneously putting the more realistic, yet complicated understanding of how real students cope with stress.

This mixed image is significant, particularly when we look at the larger context. The pandemic introduced an enormous amount of change, requiring students to adjust rapidly to online courses, social distancing, and academic ambiguity. "Research such as those done by Kindred and Bates (2023) and Santomauro et al. (2021) confirmed that anxiety, particularly social anxiety, increased during this period. Simultaneously, students had less time for face-to-face communication that may have otherwise helped trigger avoidance mechanisms related to public speaking—a habit Beck's (1976) theory claims actually fuels such anxiety. Alternatively, Bandura (1997) taught that confronting challenges in a guided manner enhances confidence, which might account for some students emerging as more resilient thanks to online education."

Resilience has obviously been a unifying theme in seeing students navigate the rollercoaster of pandemic schooling. But what this research reveals is that resilience does not imply

students no longer worry, it only means they now have the capacity to plow through it. That's a very important insight. As Bronfenbrenner (1979) had maintained, context influences resilience. Here, the very environment of online learning itself can have been both a source of stress and a practice arena for developing coping strategies.

5.2 Implications of the Study

This study adds to the field of Psychology by showing that resilience isn't just a fixed trait—it changes depending on the situation and can grow through experience. It's more of a flexible skill than a permanent shield against stress. These findings can be helpful in several areas of academic life and policymaking:

1. ***For teachers:*** Teachers can use various innovative ways to help students build resilience to deal with challenges related to academics. This can be done by giving feedback and creating space for students to learn from challenges.
2. ***For mental health professionals:*** Instead of just focusing on reducing anxiety, support programs can help students strengthen their existing coping skills and build confidence in handling stressful situations like public speaking.
3. ***For policymakers:*** The study highlights how important it is to include emotional and psychological development—like resilience—into the way we design academic programs, especially in response to disruptions like the COVID-19 pandemic.

5.3 Limitations

1. The participants were all from the Delhi and Noida regions, so the results might not apply to students in other parts of India or in different countries.
2. Since the study only looked at one point in time, we can't say for sure what causes what—we can only talk about relationships between variables.
3. In a survey there is a chance that responders might give answers that show them as having favorable qualities or answers they thought were expected of them according to others instead of their actual answer.
4. Lastly, we didn't explore other variables like personality type, social support, or past mental health issues, all of which could also affect PSA and resilience.

One of the things that was found was about the kind of relationship we had between PSA and resilience. This study had hypothesized that these two variables would be negatively related,

that is, as resilience would increase, anxiety would decrease. But what we found was a weak positive correlation.

5.4 Future Directions for Research

There's still a lot more to explore in this area, and this study opens a few useful directions for future research:

1. Longitudinal studies might allow us to observe how resilience and PSA develop over time, particularly as students' progress through their educational careers.
2. Both quantitative and qualitative approaches may provide an even more full picture of the ways in which students feel and manage anxiety and resilience.
3. Subsequent research must also employ a broader set of factors such as background, support networks, and emotional states to be able to understand what affects the relationship between resilience and PSA.
4. It would be helpful to explore how things like school policies, peer support, or university counseling services might affect the way resilience and anxiety interact.

This research adds to by broadening. This research provides various implications for teachers, mental health professionals and policy makers. These findings are as follows:

1. ***For educators:*** It assists them to incorporate resilience-strengthening strategies in their instruction to assist students in developing resilience in response to unanticipated setbacks.
2. ***For mental health practitioners:*** Mental health practitioners can develop programs that enhance students' coping strengths rather than working singly on reducing anxiety.
3. ***For policymakers:*** They can start by acknowledging the importance of resilience in curriculum, particularly after the pandemic.

6. Conclusion

This research investigated the correlation between resilience and public speaking anxiety (PSA) in university students in the scenario of online learning during the COVID-19 pandemic. The two variables of this study were found to have a weak positive correlation between them. The findings indicate that resilience was more important in determining students' capacity for coping with public speaking anxiety (PSA). The regression analysis revealed the effect size was small, but that resilience plays a measurable role in predicting anxiety levels related to public speaking.

The other finding showed how resilience levels differ across various online learning durations in COVID-19 pandemic. Meaning that the more time a student spent on online learning during the pandemic, the higher their resilience was. Thus, rather than focusing solely on reducing anxiety, interventions that build resilience may offer a more sustainable path toward helping students thrive in high-stress situations like public speaking—whether in person or online.

Overall, the study contributes to growing knowledge about how the pandemic affected students' lives and how variables such as resilience can help students manage academic distress during times of disruption. The study also acknowledges the significance of developing resilience through pedagogy, peer mentoring, and institutional counseling initiatives. In introducing resilience-inspired interventions into learning spaces, universities can prepare students to survive and thrive amidst adversity.

References

- Arslan, G. (2016). Psychological maltreatment, emotional and behavioral problems in adolescents: The mediating role of resilience and self-esteem. *Child Abuse & Neglect*, 52, 200–209. <https://doi.org/10.1016/j.chiabu.2015.09.010>
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. W.H. Freeman.
- Beck, A. T. (1976). *Cognitive therapy and emotional disorders*. International Universities Press.
- Bodie, G. D. (2010). A racing heart, rattling knees, and ruminative thoughts: Defining, explaining, and treating public speaking anxiety. *Communication Education*, 59(1), 70–105. <https://doi.org/10.1080/03634520903443849>
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.
- Chaturvedi, K., Vishwakarma, D. K., & Singh, N. (2021). COVID-19 and its impact on education, social life and mental health of students: A survey. *Children and Youth Services Review*, 121, 105866. <https://doi.org/10.1016/j.childyouth.2020.105866>
- Chen, T., & Lucock, M. (2022). The mental health of university students during the COVID-19 pandemic: An online survey in the UK. *PLOS ONE*, 17(1), e0262562. <https://doi.org/10.1371/journal.pone.0262562>

- Dwyer, K. K., & Davidson, M. M. (2012). Is public speaking really more feared than death? *Communication Research Reports*, 29(2), 99–107. <https://doi.org/10.1080/08824096.2012.667772>
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, 56(3), 218–226. <https://doi.org/10.1037/0003-066X.56.3.218>
- Grieve, R., Woodley, J., Hunt, S. E., & McKay, A. (2021). Student fears of oral presentations and public speaking in higher education: A qualitative survey. *Journal of Further and Higher Education*, 45(9), 1211–1223. <https://doi.org/10.1080/0309877X.2020.1822567>
- Han, H. R., Miller, H. N., Nkimbeng, M., Budhathoki, C., Mikhael, T., Rivers, E., Gray, J., & Tracy, K. (2021). A systematic review of resilience interventions for socially vulnerable populations. *American Journal of Public Health*, 111(8), e1–e11. <https://doi.org/10.2105/AJPH.2021.306319>
- Hoops, L. D. (2022). Public speaking in a pandemic: A situational, compensatory, and resilient undertaking. *Communication Teacher*, 36(4), 299–304. <https://doi.org/10.1080/17404622.2022.2048751>
- Kindred, R., & Bates, G. (2023). The influence of the COVID-19 pandemic on social anxiety: A systematic review. *International Journal of Environmental Research and Public Health*, 20(3), 2362. <https://doi.org/10.3390/ijerph20032362>
- Klohn, E. C. (1996). Conceptual analysis and measurement of the construct of ego-resiliency. *Journal of Personality and Social Psychology*, 70(5), 1067–1079. <https://doi.org/10.1037/0022-3514.70.5.1067>
- Labrague, L. J. (2021). Resilience as a mediator in the relationship between stress-associated with the COVID-19 pandemic, life satisfaction, and psychological well-being in student nurses: A cross-sectional study. *Nurse Education in Practice*, 56, 103182. <https://doi.org/10.1016/j.nepr.2021.103182>
- Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development*, 71(3), 543–562. <https://doi.org/10.1111/1467-8624.00164>

- Marinho, A. C. F., de Medeiros, A. M., Gama, A. C. C., & Teixeira, L. C. (2017). Fear of public speaking: Perception of college students and correlates. *Journal of Voice*, 31(1), 127.e7–127.e11. <https://doi.org/10.1016/j.jvoice.2015.12.012>
- Ong, A. D., & Thompson, R. J. (2022). The broaden-and-build theory of positive emotions: Updates and implications. *Current Directions in Psychological Science*, 31(1), 19–26. <https://doi.org/10.1177/09637214211043095>
- Richardson, G. E. (2002). The metatheory of resilience and resiliency. *Journal of Clinical Psychology*, 58(3), 307–321. <https://doi.org/10.1002/jclp.10020>
- Santomauro, D. F., Mantilla Herrera, A. M., Shadid, J., Zheng, P., Ashbaugh, C., Pigott, D. M., Abbafati, C., Adolph, C., Amlag, J. O., Aravkin, A. Y., Bang-Jensen, B. L., Bertolacci, G. J., Bloom, S. S., Castellano, R., Castro, E., Chakrabarti, S., Chattopadhyay, J., Cogen, R. M., Collins, J. K., ... Ferrari, A. J. (2021). Global prevalence and burden of depressive and anxiety disorders in 204 countries and territories in 2020 due to the COVID-19 pandemic. *The Lancet*, 398(10312), 1700–1712. [https://doi.org/10.1016/s0140-6736\(21\)02143-7](https://doi.org/10.1016/s0140-6736(21)02143-7)
- Seery, M. D., Holman, E. A., & Silver, R. C. (2010). Whatever does not kill us: Cumulative lifetime adversity, vulnerability, and resilience. *Journal of Personality and Social Psychology*, 99(6), 1025–1041. <https://doi.org/10.1037/a0021344>
- Spantig, L., & Renner, A. (2022). Facing the screen: Public speaking anxiety and webcam usage during virtual presentations. *Computers in Human Behavior Reports*, 6, 100166. <https://doi.org/10.1016/j.chbr.2022.100166>
- Zayac, R., & Ratliff, T. L. (2019). Predicting public speaking anxiety: The role of trait mindfulness. *Communication Research Reports*, 36(2), 157–167