

Research Article

Understanding the Dynamics of Social Support, Self-efficacy, and Academic Stress in the Context of Online Learning: Evidence from Undergraduate Students

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Abstract.

Engaging in remote learning presents substantial challenges, particularly in emergencies such as a Covid outbreak. The transition to online teaching can introduce additional stressors. This study investigated the association between social support, self-efficacy, and academic stress among undergraduate students. Furthermore, it sought to identify predictors of academic stress during online learning and examine the mediating role of social support in the relationship between online self-efficacy and academic stress. This study uses a convenience sample of 200 undergraduate students – 138 females (69%) and 62 males (31%), aged between 18 and 24 years. Data were collected using the social support scale, online self-efficacy scale, and academic stress scale. Bivariate correlation analysis revealed a negative correlation between family support and academic stress, while no significant correlations were observed with friends' or significant others' support. Moreover, no significant correlation was found between online self-efficacy and academic stress. Results also indicated a positive correlation between online self-efficacy and all dimensions of social support. Multiple regression analysis demonstrated that a combination of online self-efficacy and social support could predict academic stress. In conclusion, social support is pivotal in mitigating academic stress during emergency remote learning.

Keywords: academic stress, online self-efficacy, social support

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1. Introduction

The COVID-19 pandemic has profoundly affected daily activities, particularly in the realm of education. Learning systems across all levels of education transitioned to remote, internet-based platforms, keeping students away from physical campuses for safety reasons. This abrupt shift can pose challenges, particularly for students who were ill-prepared for online learning. Lim and Regencia [1] reported that college students in the Philippines experienced psychological effects due to this shift, including difficulties adjusting to the new learning environment, suboptimal instructional methods, unsuitable physical classroom settings, and struggles in balancing leisure time with academics.

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Additionally, Oktaviani, Sari, Nani, and Mediatati [2] found that Indonesian students faced academic stress primarily due to pressure to meet tight deadlines for tests and assignments, disruptions in the teaching and learning process, limited internet access, graduation preparations, and difficulties in comprehending subject matter. These findings underline the link between online learning and academic stress [3].

A recent meta-analysis involving 36 empirical studies encompassing 78,674 remote learning students from 19 countries during the COVID-19 pandemic revealed a high prevalence of anxiety (58%), depression (50%), and stress (71%) [4]. Even in the Indonesian context, undergraduate students encountered stress during remote learning. Cucu, Rokayah, Eli, Fitri, Sholihah, and Fitra [5] discovered that 75% of Diploma of Nursing students experienced moderate stress levels during online learning due to factors such as difficulty in grasping course material, reduced concentration, and various distractions when studying at home.

Liviana, Mubin, and Basthomi [6] conducted a study across 34 Indonesian provinces and identified seven factors contributing to student stress during the COVID-19 pandemic, with academic assignments being a significant stressor in online learning. Their study revealed that 55.8% of students experienced stress during the pandemic, primarily due to online learning. Another study indicated that 48.9% of students experienced mild stress, 42.6% experienced moderate stress, and 8.5% experienced severe stress due to changes in online learning during the pandemic [7].

Stress, as defined by Sarafino and Smith [8], is a state in which an individual feels unequipped to handle the demands of their environment, resulting in tension and discomfort. Academic stress, as Barseli, Ildil, and Nikmarijal [9] argue, is a prevalent condition in various learning environments. Wilks [10] characterizes academic stress as a combination of high academic demands coupled with low adaptability on an individual level. It is a state wherein students experience pressure due to their perceptions and assessments of academic stressors [11]. Academic stress can be understood as a situation in which students subjectively perceive their inability to manage the academic demands placed upon them [12]. Alvin [13] identifies academic stress as the pressure students experience due to academic demands and competition. The difficulty of the subject matter can also be a source of academic stress, causing students to feel apprehensive toward their instructors [14]. Thus, academic stress is a multifaceted phenomenon present in educational settings, both in school and online [9].

The repercussions of academic stress in an online learning environment are considerable. Kumalasari and Akmal [15] found a significant negative impact of academic stress on student satisfaction with online learning. Furthermore, academic stress adversely

affects student performance [16]. Rachma [17] distinguishes between short-term and long-term effects of academic stress. The short-term effects include psychological responses like anxiety, sadness, fear, and despair. Long-term impacts manifest as a weakened immune system, making students more susceptible to illness, in addition to depression, mental fatigue, and the adoption of unhealthy coping mechanisms such as smoking or drinking [17].

In an effort to explore the impact of academic stress in an online learning context, we conducted short interviews with 30 students on November 15, 2020. A staggering 76.6% of the students, or 23 out of 30, reported frequent experiences of academic pressure or stress especially during online classes. These students cited increased workload and a different learning system from their respective universities as factors leading to poor time management and academic stress. A significant number (23) also disclosed feelings of sadness, fear, and anxiety about the future, further intensifying their academic stress. Worryingly, 7 out of 30 students revealed that academic stress had physical implications, with one student sharing an instance of high fever as a direct consequence of academic stress.

According to Taylor [18], academic stress is influenced by various external and internal factors. External factors encompass variables such as time, finances, education, living standards, stressors, and social support. In the context of academic stress caused by online learning, social support emerges as a critical external factor aimed at reducing stress levels. Social support, as defined by Verheijden, Bakx, Koelen, and Van Staveren [19], involves the availability of individuals within one's social environment, such as family and friends, offering support or exchanging perceived support. Conversely, Sarafino and Smith [20] views social support as comfort, attention, appreciation, or assistance provided by individuals or groups. This aligns with Majrika's [21] findings of a negative correlation between social support and academic stress, implying that higher peer support is associated with lower academic stress and vice versa.

Social support is broadly defined as the support an individual receives from family, friends, and significant others [22]. It encompasses the willingness of individuals to invest time and be part of a community with shared interests and social activities. This support provides a sense of being loved, cared for, valued, and accepted within a social community [23]. Baqutayan [24] experiment suggest that Students who participated in instructional sessions focused on the utilization of social support as a means to mitigate academic stress exhibited enhanced coping abilities and reported greater satisfaction with their academic achievements. The provision of social support emerges

as an effective strategy in assisting individuals to regulate emotional and physiological reactions when confronted with stressful academic circumstances.

In addition to external factors like social support, internal factors also play a pivotal role in mitigating academic stress. Oktavia, Fitri, Wulandari, and Feliana [25] conducted a study suggesting that self-efficacy, hardiness, and motivation are internal factors that influence academic stress. Self-efficacy, in particular, can be a significant factor in reducing student stress levels [26]. Self-efficacy encompasses an individual's generative abilities, including cognitive, social, and emotional aspects, and its impact on confidence and goal attainment [26].

Moreover, self-efficacy is essential in online learning, where it is considered a key determinant of success [27]. Zimmerman and Kulikowich [28] define online learning self-efficacy as an individual's perception of their competence in completing specific online learning tasks, rooted in Bandura's framework. Schunk [29] specifies that academic self-efficacy relates to an individual's belief in their ability to complete academic tasks at a certain level. Wang and Neihart [30] further underline that academic self-efficacy signifies an individual's belief in their ability to successfully fulfill academic tasks. Baron and Byrne [31] interpret academic self-efficacy as an individual's belief in their ability to perform academic tasks, signifying their ability to learn. In the context of online learning self-efficacy, it encompasses technology, learning, and social interaction [32]. It refers to an individual's perceived capability to complete online learning tasks.

While previous research has examined the role of social support and online self-efficacy in academic stress, limited evidence exists regarding their combined influence on academic stress during online learning, especially in the Indonesian context. Given this background, our study aims to investigate the relationship between social support, online learning self-efficacy, and academic stress. Additionally, we seek to determine whether both social support and online learning self-efficacy can jointly predict stress levels among students in online learning environments during the COVID-19 pandemic.

2. Methods

In this study, we formulated the hypothesis that there would be a negative correlation between social support, online self-efficacy, and academic stress. We further aimed to determine whether a combination of social support and online self-efficacy could predict academic stress through multiple regression analysis.

Our study involved 200 undergraduate students selected through convenience sampling. The participants included 138 females (69%) and 62 males (31%), with ages ranging

from 18 to 24 years (M=21 years). All participants were engaged in online learning during the COVID-19 pandemic, with the majority (70%, or 141 students) representing public universities, and the remaining 30% (60 students) originating from private institutions.

Data were collected through the administration of three self-report questionnaires, namely the Perception Academic-Stress (PAS) [12], the Multidimensional Scale of Perceived Social Support (MSPSS) [22], and the Online Learning Self Efficacy Scale (OLSES) [28]. The questionnaires were translated into the Indonesian language using a forward-backward translation process involving three different translators. The corrected item-total correlation for PAS ranged from 0.253 to 0.610, and the internal consistency, measured using alpha Cronbach, was 0.781. MSPSS exhibited corrected item-total correlation values between 0.406 and 0.741, with an internal consistency of alpha Cronbach at 0.898. OLSES demonstrated corrected item-total correlation values ranging from 0.361 to 0.592 and an internal consistency of alpha Cronbach at 0.874.

Data analysis was conducted using JASP, a free software package. Initially, a bivariate correlation analysis was employed to explore the relationships between the study variables. Subsequently, multiple regression analyses were conducted to examine the predictors of academic stress.

3. Result

Before we examine the hypothesis, we check the distribution of data. Since it is not meet normal distribution, therefore we applied a non-parametric correlation analysis, using Spearman correlation.

TABLE 1: Correlation Between Online Learning Self-Efficacy, Social Support, and Academic Stress among Undergraduate Student.

Variables		Academic Stress	Social Support	Online Learning Self-efficacy
Academic Stress	r	-	-	-
	Sig. (2-tailed)	-	-	-
Social Support	r	-0.170*	-	-
	Sig. (2-tailed)	0.019	-	-
Online Learning Self-efficacy	r	-0.066	0.329*	-
	Sig. (2-tailed)	0.364	0.000	-

Based on the results using the bivariate correlation test above, the correlation between academic stress and social support has a significance value of 0.019 ($p < 0.05$), which means both variables have a significant correlation. Thus, it can be

concluded that the first hypothesis is accepted. The academic stress variable and online learning self-efficacy have a significance value of 0.364 ($p > 0.05$), which means that the two variables in this study do not have a significant relation, indicating that the second hypothesis in this study was not accepted. The social support variable with online learning self-efficacy has a significance value of 0.000 ($p < 0.05$), indicating that the two variables have a significant relation.

Furthermore, the correlation coefficient between academic stress variables and support social value shows a value of -0.170, which indicates the correlation between the two variables is at a weak correlation level and has a negative direction. The higher the social support, the more the social support, the lower the academic stress. On the academic stress, variable and online learning self-efficacy has a correlation coefficient value of -0.066, which shows that the correlation between the two variables is in weak correlation and has a negative direction, which means the higher the self-efficacy in online learning, the lower academic stress. While the value of the correlation coefficient between the support variables social media with online learning self-efficacy has a correlation coefficient value of 0.329, which shows that the two variables have a reasonably strong correlation and are in a positive direction, which means that the higher the social support, the higher self-efficacy in online learning

TABLE 2: Multiple Regression of Online Learning Self-Efficacy, Social Support, in Predicting Academic Stress.

Predictor	B	SE	β	p
Social Support	-0.130	0.049	-0.193	0.009
Online Learning Self-efficacy	-0.031	0.052	-0.043	0.555
F	4.564			
R ²	0.044			

The total regression test shows that the significance is 0.012 ($p < 0.05$), which means that the significant results of social support and self-efficacy in online learning can be used to predict academic stress. The correlation coefficient results between academic stress variables, social support, and self-efficacy in online learning show the results of $r = 0.210$, and the determinant coefficient is $r^2 = 0.044$. That means the variables of social support and Self-efficacy in online learning simultaneously contributed 4.4% to stress academic, and the other 95.6% was attributed to the other factors.

The results of hypothesis testing using multiple regression analysis show that the value of $F = 4.564$ with a significance of 0.012 ($p < 0.05$). Therefore, the hypothesis in this study which says that social support and self-efficacy in online learning simultaneously can predict student academic stress during the COVID-19 pandemic is accepted.

4. Discussion

This study aimed to investigate the relationships between social support, online learning self-efficacy, and academic stress among students during online learning, particularly during the COVID-19 pandemic. It also sought to determine whether social support and online learning self-efficacy, when considered together, could collectively predict academic stress. The hypotheses proposed anticipated a significant negative correlation between academic stress and both social support and online learning self-efficacy, suggesting that higher levels of social support and online learning self-efficacy would be associated with lower academic stress among respondents.

The results indicated that there was a significant and negative correlation between social support and academic stress. These findings align with prior research conducted by Ernawati and Rusmawati [33], which similarly demonstrated a negative relationship between social support (particularly from parents) and academic stress. Andharini and Nurwidawati's study [34] also corroborated a significant negative association between esteem support and academic stress. Majrika's research [21] supported these conclusions, revealing that greater peer support corresponded to lower academic stress, and vice versa.

Notably, the research mentioned above typically focused on specific forms of social support, such as parental involvement or esteem support, and frequently involved school students as participants. In contrast, this study employed a more generalized measure of social support with a particular focus on university students engaged in online learning during the COVID-19 pandemic.

Contrary to our expectations, the study did not find a significant correlation between online learning self-efficacy and academic stress. This finding diverged from previous research, such as the studies conducted by Siregar and Putri [35] and Kristensen et al., [36], which revealed a significant negative correlation between self-efficacy and academic stress of students. The direction of the relationship was consistently negative. This non-significant result may be attributed to the distinct context of self-efficacy measured in this study, which specifically pertained to online learning. In contrast, the studies cited previously examined self-efficacy in a traditional face-to-face learning context.

In contrast to the aforementioned studies that addressed self-efficacy in general terms, this research incorporated a more specific measure of self-efficacy in the context of online learning. This specific variable aimed to provide deeper insights into self-efficacy levels, particularly in the online learning environment. Self-efficacy plays a

pivotal role in students' academic lives, particularly in the context of online learning. Students with robust academic self-efficacy are more likely to actively engage in academic activities, possess the belief in their ability to succeed, and set high academic achievement goals [37]. According to Bandura and Pajares, academic self-efficacy influences students' choices, goals, efforts, and persistence in classroom activities [38].

The findings from the multiple regression analyses confirmed the second hypothesis. It suggested that when considering social support and online learning self-efficacy together, they collectively predict academic stress. In simpler terms, students who have strong social support and high online learning self-efficacy can jointly serve as predictors of academic stress. Furthermore, the results highlighted that social support emerged as the more influential predictor in forecasting academic stress. This indicates that, in separate analyses, social support can independently predict academic stress, while online learning self-efficacy lacks the ability to predict academic stress in isolation. Students who perceived substantial social support networks were less likely to experience high levels of academic stress. This result is consistent with earlier studies [35] [36] underscoring the importance of a supportive environment in mitigating academic stress.

However, online learning self-efficacy did not significantly predict academic stress. This implies that self-efficacy in online learning may not have an independent influence on academic stress. Various factors may contribute to this non-significant result. The relationship between self-efficacy in online learning and academic stress may be more complex than initially hypothesized. Other unmeasured variables, such as the quality of online learning resources or students' familiarity with online learning platforms, may influence this relationship.

It is important to acknowledge the limitations of this study. Firstly, the sample consisted of 200 respondents, with 62 male students (31%) and 138 female students (69%). The preponderance of female participants may limit the generalizability of the findings. Future research should strive for a more balanced representation of gender. Additionally, a limitation is the absence of data regarding respondents' living arrangements during online learning, such as whether they were residing with their families or independently. Yumba [39] suggests that environmental factors, including living arrangements, can influence individual academic stress. The lack of this information restricts a comprehensive understanding of contextual factors contributing to academic stress.

5. Conclusion & Implication

In conclusion, this study reveals that social support plays a vital role in mitigating academic stress among students in the context of online learning during the COVID-19 pandemic. However, self-efficacy in online learning, although positively correlated with social support, did not independently predict academic stress. These findings underscore the importance of fostering social support networks to alleviate academic stress during challenging learning environments, such as those posed by the pandemic. Future research should explore additional factors that may interact with self-efficacy to impact academic stress in the context of online learning.

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