

DOI: 10.53555/ks.v12i4.3547

A Comparative Study on the Role of Social Support Agents on Academic Resilience of Students in an Online and Face to Face Learning Environment

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Abstract

This comparative research aims to investigate the role of social support agents in determining the academic resilience of tertiary level students during face-to-face and online learning environment. Social support buffers not only stressful experiences but also provide guidance to resolve their educational challenges. A cross-sectional survey was designed to measure social support and academic resilience with adapted scales. The data were collected from undergraduate students (n=505) enrolled in formal and distance learning institutions. The reliability and validity of adapted scales were ensured i.e., of academic resilience ($\alpha = 0.79$; CVI= 0.85) and social support ($\alpha = 0.92$; CVI= 0.89). Inferential statistics revealed that peers' support influence ($p = .019$) the academic resilience of online students whereas teachers' support ($p = .061$) insignificantly facilitates students' academic resilience in face-to-face learning environment. Moreover, gender difference was significant among peer support ($p = .013$) in different modes of learning. In short, male students experience better peer support in online learning environments while female students experienced better peer support in face-to-face learning environments. It can be concluded that the reason of less peers' support in online learning environment is due to fewer collaborative learning activities that is a source of academic isolation among students.

Keywords: academic resilience, social support, support, peers' support, teachers' support

Introduction

The transformation in education system has been initiated by wide range of universities to cater the educational needs of students at masses. This transformation is considered to be incorporated by many others in coming years. The technological advancements in every arena of life paved way for this transformation to cater with the changing demands of skills in work force.

The learning procedures were shifted to online learning facilitated students to explore self-learning procedures, provided convenience and flexibility to learn at their pace (Almahasees, Mohsen & Amin, 2021). In addition, these procedures promote online research, access to authentic sources of knowledge and promoted self-discipline among them (Paudel, 2021).

Transformed education system poses some challenges on part of students as being the most critical stakeholder of this system. The students were influenced significantly due to the disruptive home environment for learning that heightened their workload (Gul, R., et al., 2023; Gul, R., & Khilji, G. K. 2022; Tahir, T. et al., 2023; Khan, H. 2023; Gul, R., et al, 2023). They also encountered issues in accessing authentic learning sources and acquainting them with complex technological system which influenced the performance of online learners (Barrot et al., 2021). Moreover, their motivation influenced due to inadequate learning interaction with their peers and instructors (Adnan & Anwar, 2020; Ullah et al., 2021). These challenges lead to partial understanding of concept and generating indifferent attitudes of students towards transformed learning practices (Mishra et al., 2020). Especially, in the context of Pakistan the students from the Allama Iqbal Open University (AIOU) face technical problems, insufficient time management skills, limited financial support and family concerns while experiencing online workshop (Warsi, 2021). Eventually, these problems and difficulties impacted student's ambition to keep up with the learning procedures leading to high dropout rate in online learning (Stone, 2019).

The challenging nature of online learning demand support from their social network to not only buffer their stressful learning situations but also provide them with hands on solutions to their problems, which strengthens resilience among students to deal with the challenging learning environment. Social support is regarded as a fundamental element for students to deal with learning challenges and to develop resilience in both transformed learning modes (Ahmad, Gul, & Kashif, 2022; Gul & Khilji, 2023; Salameh et al., 2022) and conventional ones (Bukhori et al., 2017; Sabouripour & Roslan, 2015).

Social support referred to as perceptions and experiences of being loved and cared for by others. A sense of belonging to a specific social network was developed by being valued and esteemed by them with mutual assistance and commitments (Wills, 1991, as cited in Taylor, 2011). The social network includes family, friends, social and community members (Ahmad & Gul, 2021; Gul, Ayub, et al., 2021; Gul, Muhammad, et al., 2021). Furthermore, social support performs various functions. Based on the work of Uchino (2004) social support function as providing emotional or esteem support focusing on positive regard,

care and assurances by social network. Tangible or informational support refers to direct assistance through feedback and guidance by others and companionship support which focuses on one's accessibility to hang out with their social networks and holds the feelings of belongingness with them. These functions help students to cope with adverse academic situations while strengthening their relationship leading to their psychological wellbeing (Sarafino et al., 2015).

Alternatively, resilience is psychological nature that focuses on individual's ability to deal with stressful life events, hurdles and adversity in positive manner (Ahmad, Gul, & Zeb, 2022; Gul et al., 2022; Gul, Ayub, et al., 2021). Stress and resilience share a complex relationship, it ensures individuals facing the challenging learning situation to recover from them with a constructive mindset. This helps individuals to optimize their performance and achieve their life goals (Kumalasari & Akmal, 2021). Additionally, resilience is based on three circumstances that are stress resistance (facing a significant hardship), bouncing back (recovering from stressful situation) and normalization (returning to normal and relaxing self), these help individual to recover from stress inducing situations (Cutuli & Masten, 2009). Besides, these circumstances, protective factors are also involved which includes internal and external factors (Masten & Tellegen, 2012).

Similarly, in educational environments, the assuring behaviors of students towards experiences of adverse and academic situations and they are expected to display resilience is considered as academic resilience (Gizir, 2004). In addition, Martin and Marsh (2006) described the conditions under which resilient students proficiently deal with setbacks, challenges, adversity, and pressure in educational settings. Apart from these, there are different risk factors involved in academic resilience, these are proximal risks that are direct experiences toward threatening situations and distal risks that are in direct nature. The risks that students might face in their academic settings include low performance, dropout, and retaining desired grades (Bukhari et al., 2021; Gul & Khilji, 2021; Gul, Tahir, et al., 2021). However, these risk factors can be dealt with protective factors in bringing positive and constructive learning environment into the life of students (Rojas, 2015). The protective factors are internal and external in nature. Internal ones focus on self-efficacy, communication and cooperation, self-awareness and problem solving. On the other hand, external factors constitute support and nurturance from family, school and community members. These personal and social aspects help students to bounce back from adverse academic situations to a more normalized self (Gul, Tahir, et al., 2020; Gul, Zakir, et al., 2021; Said et al., 2021).

Consequently, the concept academic resilience implies to be a multidimensional concept that involves behavior, cognitions and emotions of students towards academic challenges. This helps students to confront the adversities in a positive manner and recover from risks through protective strategies and social support from family, friends, teachers and community members play key role in buffering the effects of stressful academic situations. Eventually, it facilitates students from both transformed and conventional learning programs and ensures their completion.

Rationale of the Study

There were various academic challenges on the part of students experiencing online and face-to-face learning environment. These challenges range from personal aspects (distractions, time management, workload and motivation) to social ones including disruptive home environment, partial understanding of concepts, and poor communication system especially for online students (Adedoyin & Soykan 2020; Adnan & Anwar, 2020; Barrot et al., 2021; Mishra et al., 2020; Warsi, 2021). On the other hand, face to face students face varied challenges which focuses on stress towards final project submissions (Batool et al., 2021; Gul, Kanwal, et al., 2020; Gul et al., 2023; Muhammad Tufail et al., 2022; Salameh et al., 2022) adjustment in foreign universities and low socio-economic status (Fang et al., 2020). The online learning proceeded with Learning Management System (LMS), students had to take online sessions with their teachers, assignments and quizzes were uploaded on their portal. This ensured their progress through formative assessment procedures. On the other hand, the students from conventional educational setup had direct interactions with their teachers and peers. Their formative assessment procedures involved assignments and midterms in face-to-face settings.

Literature Review

The social support from social networks helps students to mitigate the stressful experiences in their life as well as in enhancing their psychological wellbeing (Wilson et al., 2020). Likewise, Yıldırım and Tanrıverdi (2021) recognized that resilience plays a mediating role in the relationship between social support and life satisfaction among Turkish college students. In other words, social support from family, friends and others promotes resilience skills which in turn lead to higher life satisfaction. Similarly, higher social support (family friend and others) mitigates academic stress of high school students in Nepal. The researcher further described that increasing age, low socioeconomic status and broken families are sources of academic stress among high school students. The findings revealed that a significant number of students have high levels of stress. However, high proportions of students perceive support from family greater than any other social agent (Banstola 2020). In similar scenarios, resilience skills and social support prevents students from procrastinating in Indonesian high school. They further suggest that self-regulated learning act as a moderator for academic resilience but not for social support while dealing with academic procrastination (Ahmad, Gul, & Imtiaz, 2022; Ali et al., 2021; Batool et al., 2022; Gul, Khan, et al., 2020).

Furthermore, Barratt and Duran (2021) describe that social support impacts engagement of postgraduate distance learning students. They also explained that social support acts as a moderator for psychological capital among students in United Kingdom. In short, psychological capital significantly predicts burnout and engagement among students experiencing either full time or part time job.

In conventional learning mode Fang et al. (2020) found that support from family, peers and teachers are associated with academic resilience in students belonging to low-income households in Chinese context. The researcher argued that family and peer support positively influence the academic resilience of these students and enhance their academic achievement. Another researcher found moderate relationship between resilience and social support among international students in

Malaysia. In other words, their resilience was influenced by social support from family, friends, teachers and significant others in form of emotional and financial assistance (Ayub, Gul, Malik, et al., 2021; Gul & Reba, 2017; Saleem et al., 2021; Sohail et al., 2018). Similarly, Dawson and Pooley (2013) found positive relationship between resilience and social support among university students and Bukhori et al., (2017) found significant influence of social support from family on student's resilience in final semester. Similarly, there was significant and positive relationship between resilience and social support among high school students in Malaysian context (Achour & Nor, 2014). The researchers also argued that student engagement was significantly influenced by academic efficacy and academic resilience in a positive manner. They further identified the moderating role of teachers' support among academic resilience and academic efficacy with student engagement (Gul, Kanwal, et al., 2020; Gul & Rafique, 2017; Khan et al., 2023).

Moreover, Putri and Nursanti (2020) discussed the significant relationship between peer support and academic resilience of Jakarta students as migrant university students. They found that action-based support focusing on reliable alliance, opportunity for nurturance and emotional support based in attachment and social integration significantly correlates with academic resilience and their sub constructs outlined by Cassidy (2016). Furthermore, they argued that social support influences academic resilience during transformed learning modes during pandemic.

On the other hand, deep understanding towards social support and academic resilience in online learning was addressed by Lady (2021), as the researcher found positive relationship among them and friends support was considered most influential among Columbian students while transitioning from high school to tertiary education. Students also utilize family and teachers' support to handle various academic challenges during online learning during pandemic. They vent with their friends and family to release their frustrations towards transformed learning and teachers provide them with informational support to sort out their academic tasks. The interaction between support factors and agents improved the academic resilience of students (Ayub, Gul, Ali, et al., 2021; Gul, Tahir, et al., 2021).

Similarly, social support plays a crucial role in online learning system as Permatasari et al. (2021) argued that support from family contribute to enhance academic resilience of students in Indonesia while taking online learning procedures. They also discussed that peer and teacher support also facilitates online learning, but the role of family dominates the rest of support agents. In another research, Adhawayah et al. (2021) identified the significant role of academic resilience and social support of Indonesian student's involvement during online lectures (Ayub, Gul, Malik, et al., 2021; Batool et al., 2022; Gul, Ayub, et al., 2021). They further argued that moderate level of academic resilience persists in students of higher education. However, social support facilitates them to handle adverse academic situations in form of transformed learning environment.

Moreover, the researcher identified moderate level of academic resilience and social support among new students in Indonesia, they found a significant relationship among social support and self-efficacy which enriches academic resilience of students during pandemic (Rukmana & Ismiradewi, 2022). In addition, Rustham et al. (2022) identified that social support from peers play a significant role to boost academic resilience of high school students. They found that 20% contribution towards academic resilience was made by social support. Therefore, other support agents are also essential for enhancing resilience among students. In the same way, Sujiarto et al. (2022) argued that social support positively influences academic resilience of higher education students in found significant and positive effect of social support on academic resilience of students in Indonesia experiencing independent learning program. Similarly, there was significant association among perceived social support and resilience. The perceived support from friends and "significant others" influences the resilience of college students. Although, they found no gender differences for perceived social support (from family, friends and significant other) and academic resilience (Pimple & Parikh, 2022). The literature study by Wiyanti et al. (2021) identified that students experience low to average level academic resilience which infers that online learning has not achieved optimized utilization and social support facilitates online learning and significantly influences academic resilience of students.

Therefore, resilience building strategies enables students' to competently handle learning challenges. The emotional support from teachers strengthens the academic resilience traits of students which ensures engaging behaviors of students in classroom (Romano et al., 2021). Moreover, academic resilience traits are fostered by self-regulation trainings that focuses on time management, planning, self-motivation and focus management enable students to resiliently deal with academic challenges and highly engage in learning activities (Darabi et al., 2023). Similarly, interactive tools and online modules significantly facilitate higher education students to enhance their resilience in academic settings (Chong et al., 2022). In addition, Warshawski (2022) suggested that academic self-efficacy, resilience and social support promote effective learning experiences of students while they encounter several academic challenges. The researcher further identified that reflective practices, problem based learning and experiential learning activities strengthens resilience traits of students. Women experienced better support opportunities than male counterparts in online learning procedures. Likewise, Findyartini et al. (2021) argued that medical students experienced high levels of academic resilience in context to Indonesia. The coping mechanisms (adaptive and maladaptive), personality traits (extraversion, agreeableness, conscientiousness, neuroticism, and openness), and academic performance of students predicted their resilience traits.

Hence, the current research may help to determine the agent of social support that significantly influence higher education students in online and face-to-face learning environment. Moreover, social support and academic resilience in both online and face-to-face learning has not been studied simultaneously.

Purpose of the Study

The current study aims at examining the role of social support on academic resilience of students experiencing online and face-to-face learning environment. The literature provides thorough knowledge of these constructs in both modes of learning, but they are not studied together. This study also intends to identify the social support students utilize to resiliently face

different challenges in educational settings. Moreover, the background factors were included i.e., gender and job status to establish deep insights into these factors which influence social support. There were few background factors, which were found in literature concerning academic resilience and social support in online and face-to-face learning environment. In this context, the objectives of the study are identified as follows:

1. To compare the role of social support agents in the academic resilience of students in face-to-face and online learning environment.
2. To examine the role of background factors on social support and the academic resilience of students in face-to-face and online learning environment.

Research Question

1. What level of social support is experienced by the students in online and face-to-face learning environment?

Hypotheses

H₀₁: There is no significant effect of social support agents and mode of learning on the academic resilience of students.

H₀₂: There is no significant difference in social support levels of different agents based on their gender.

H₀₃: There is no significant difference in social support levels of different agents based on their job status.

Methodology

Research Design

The quantitative causal comparative research design (ex post facto research) (Fraenkel & Wallen, 2008; Schenker & Rumrill, 2004) was employed to examine the role of social support on academic resilience of students. Moreover, the research employed cross sectional survey (Creswell, 2004) to measure the responses of students on the above-mentioned constructs with background factors.

Sample and Population

The population was undergraduate students enrolled in face-to-face and online distance learning programs at AIOU. The online learning programs were offered by humanities, social science and education faculties through their learning management system (LMS). They proceed through online classes on LMS (Learning Management System) and formative assessment procedures include assignments and midterm to assess students' progress. On the other hand, sciences faculty offer programs in face-to-face learning environment, which comprises on campus class schedules with ongoing assignments and mid-terms to assess student's learning development.

The sample size was 505 students from undergraduate programs of indigenous university. The multistage stratified proportionate sampling technique was used to collect data from students. In initial phase, permission was taken from concerned departments and officials. The students from face-to-face learning were directly contacted from various departments of science faculty and students from online distance learning were communicated through sending Google form over emails.

Data Collection and Analysis

The data was collected through questionnaires on social support and academic resilience of students from both online and face-to-face learning environment. The ethical review board permission was taken before the data collection phase. The students from science faculty were randomly asked to complete the hard copy of questionnaire with background factors and 200 responses were collected during April-May 2023.

However, the students from online distance learning were contacted through their email addresses which were accessed through admission department. The permission was granted by Chairperson of Secondary Teacher Education and Director Admissions. The Google form link of social support, academic resilience and background factors were emailed to students enrolled in different programs during June-July 2023.

Table 1 *Demographic Characteristics of Undergraduate students*

Sr. No.	Demographic characteristics of undergraduate students	n=505
1.	Gender	
	Male	234 (46.3%)
	Female	271 (53.6%)
2.	Job status	
	Unemployed	354 (70%)
	Employed	151 (29.9%)
3.	Mode of Learning	
	Face-to-face	200 (39.6%)
	Online	305 (60.3%)

Note. n= number of participants

Ethical considerations

Moreover, ethical considerations were followed as described by Vaus (2002) in social sciences while conducting the planned research. Initially, it was made sure that students voluntarily participated during collection of data. Moreover, informed consent was given to students before the collection of data and students were not forced to complete the Social Support Scale and Academic Resilience Scale without their interest. Respondents of the research were informed that no harm was associated with their participation in research. Confidentiality anonymity was ensured as names were not asked and other information was kept confidential. Finally, Privacy of participants was maintained as the collected data was used only for research purpose.

Instrumentation

The academic resilience and perceived social support scales were adapted while considering the learning environment offered at indigenous universities.

Academic Resilience Scale

The Simon Cassidy's scale of academic resilience (2016) was adapted with minor modifications in the items. The items of the scale were 30 which constitute three sub categories as perseverance (behavioral responses of students towards academic difficulties $n=14$), Reflecting and adaptive-help seeking (cognitive responses of students towards academic difficulties $n=14$) and Negative affect and emotional response (emotional responses of students towards academic difficulties $n=7$). The number of items remained intact as no new item was developed, items were only specified with the learning process experienced by students in online and face-to-face learning environment. The Cronbach's alpha value of adapted scale was 0.79. Moreover, the Cronbach's alpha value of subscales were given in Table 2.

Table 2 Cronbach's Alpha values of Academic Resilience

Subscale	No. of Items	Cronbach's Alpha	Sample Items
1. Perseverance	14	0.683	11. I see the challenging situation as temporary.
2. Reflecting and Adaptive-help Seeking	9	0.804	21. I start to monitor and evaluate my achievements and efforts to attain improved performance.
3. Negative Affect and Emotional Response	7	0.666	29. I probably get annoyed with failures in exams.
Academic Resilience Scale	30	0.79	

Social Support Scale

On the other hand, social support scale was adapted from perceived social support (MSPSS) of Zimet et al. (1988). The scale was based on the support of family, friends and significant other. However, adapted scale only focused on 8 items related to support from family and peers/friends. The items were developed to cater for different agents of support and aspects of social support as informational support, esteem support, motivational support and venting support outlined by Thompson and Mazer (2009). Hence, 8 items were adapted from MSPSS and 37 items were developed which constitutes 45 items of social support scale. These items comprehensively measure family support, peers' support and teachers' support of students in online and face-to-face learning environment. The Cronbach alpha value of adapted scale was 0.953. The Cronbach alpha values of subscales were given below.

Table 3 Cronbach's Alpha values of Social support

Subscale	No. of Items	Cronbach's Alpha	Sample Items
1. Family Support	16	0.885	3. My family provides me with disturbance free learning environment at home.
2. Peers Support	17	0.902	7. My friends/peers update me about timelines of assignments and presentations.
3. Teachers support	12	0.913	22. My teachers encourage me to work efficiently to attain standard performance.
Social support Scale Overall	45	0.953	

The content validity index (CVI) of the adapted tools was ensured by eight Subject Matter Experts (SMEs). The critical value of Academic resilience (AR) scale was 0.85, and social support (SS) scale was 0.89, and these values were aligned with the satisfactory performance based on eight SMEs.

Results

The survey data was analyzed through various statistical techniques. The descriptive statistics revealed the level of social support and academic resilience among student experiencing online and face-to-face learning environment.

Table 4 *Weights for Analysis*

Agents of Social Support	No. of Items	Range			M	SD
		Low	Medium	High		
1. Family Support	16	16-32	33-64	65-96	68.30	15.85
2. Peers Support	17	17-34	35-68	69-102	66.56	18.12
3. Teachers support	12	12-24	25-48	49-72	50.92	13.66
Social Support Overall	45	45-90	91-180	181-270	185.79	42.37

Note. N= 505, M=Mean, SD= Standard Deviation

The table 4 showed that students experienced high levels of overall social support (M=185.79). They also experienced high levels of family (M= 68.30) and teachers support (M= 50.92) but medium level of peer support (M= 66.56). This infers that strong support mechanism is available to students, but peers support is slightly compromised.

Table 5 *Weights for Analysis*

Subscales	No. of Items	Range			M	SD
		Low	Medium	High		
1. Perseverance	14	14-28	29-56	57-84	61.03	12.07
2. Reflecting and adaptive-help seeking	9	9-18	19-36	37-54	41.07	9.44
3. Negative affect and emotional response	7	7-14	15-28	29-42	25.42	8.19
Academic Resilience Overall	30	30-60	61-120	121-180	127.52	24.75

Note. N= 505, M=Mean, SD= Standard Deviation

Similarly, the values on Table 5 shows that students at higher education experienced high level of academic resilience (M= 127.52), perseverance (M= 61.03) and reflective and adaptive help seeking (M= 41.07). However, they experience medium level of negative affect and emotional response (M= 25.42). This suggested that students have ample traits of resilience in academic setup but their capacity to deal with the negative emotional states needs improvement.

Table 7 *Descriptive statistics for social Support and mode of learning on Academic Resilience*

Support Agent	Level of support	Mode of Learning	M	SD	N
Family Support	Low	Online	72.38	46.276	16 (5.2%)
		Face-to-Face	114.41	17.004	64 (32%)
	Moderate	Online	118.09	25.848	88 (28.8%)
		Face-to-Face	132.20	14.122	136(68%)
Peers Support	High	Online	137.04	20.572	201 (65.9%)
		Face-to-Face	126.00	4.243	2 (1%)
	Low	Online	96.38	47.580	24 (7.8%)
		Face-to-Face	120.70	17.072	102 (51%)
	Moderate	Online	120.28	23.756	133(43.6%)
		Face-to-Face	132.69	15.338	96 (48%)
	High	Online	140.45	21.517	148 (48.5%)
		Face-to-Face	125.00	5.657	2 (1%)
Teachers Support	Low	Online	93.17	48.813	24 (7.8%)
		Face-to-Face	113.07	15.386	58 (29%)
	Moderate	Online	117.93	22.211	100 (32.7%)
		Face-to-Face	132.09	14.468	140 (70%)
	High	Online	138.49	21.941	181 (59.3%)
		Face-to-Face			

Note. N= 505, M=Mean, SD= Standard Deviation

The two-way ANOVA was conducted to examine the effect of social support and mode of learning on academic resilience of students. The descriptive results (table 7) revealed that low levels of family support were totally absent in face-to-face learning

environment but students on online learning environment face low levels of support from their families even though fewer students confront such issues that influenced their academic resilience. Likewise, moderate level of family support was higher in students experiencing online learning environment ($M= 118.09$) than students in face-to-face learning environment ($M= 114.41$) and high levels of family support was experienced more by online students ($M= 137.04$) than face-to-face students ($M= 132.20$).

Similarly, low levels of peer support was more common among students in online learning environment ($M= 96.38$, $n= 24$) than face-to-face ones ($M= 126.00$, $n= 2$). There was minor difference among moderate level of peer support in face-to-face students ($M= 120.70$) and online students ($M= 120.28$). However, high levels of peer support was experienced more by online students ($M= 140.45$) than face-to-face ones ($M= 132.69$) that affect their academic resilience.

In addition, support from teachers in lower level was evident in online students ($M= 93.17$, $n= 24$) than face-to-face ones ($M= 125.00$, $n= 2$). Though, moderate level of teacher support was found more in online students ($M= 117.93$) than face-to-face students ($M= 113.07$). And high levels of teacher support were more common in online students ($M= 138.49$) as compared to face-to-face students ($M= 132.09$) that influence their academic resilience.

Furthermore, it was evident that high levels of peer support ($M= 140.45$, $n= 148$) played significant role in academic resilience of online students, whereas high levels of teachers support ($M= 133.61$, $n=144$) facilitated students' academic resilience in face-to-face learning environment.

Table 8 Two-way Analysis of Variance for Academic resilience across family support and mode of learning

Source	Type III Sum of Squares	df.	Mean Square	F	p	Partial Eta Squared
Family Support	85375.703	2	42687.851	97.004	.000	.280
Mode of learning	1851.029	1	1851.029	4.206	.041	.008
Interaction	34.318	1	34.318	.078	.780	.000

Note. Significant at $P < .05$

Moreover, Two-way ANOVA was applied to examine the interaction effect of family support and mode of learning. The results revealed that the interaction effect on academic resilience was insignificant ($p=.780$). On contrary, the findings indicated that a statistically significant effect of family support ($p= .000$, $\eta^2= .280$) on academic resilience of students with high effect size. Likewise, mode of learning ($p= .041$, $\eta^2= .008$) was also significant in differentiating academic resilience of students.

Table 9 Two-way Analysis of Variance for Academic resilience across Peers support and Mode of Learning

Source	Type III Sum of Squares	df.	Mean Square	F	p	Partial Eta Squared
Peers Support	32174.735	2	16087.368	32.576	.000	.115
Mode of learning	861.902	1	861.902	1.745	.187	.003
Interaction	3954.636	2	1977.318	4.004	.019	.016

Note. Significant at $P < .05$

Although, a significant interaction effect of peer support and mode of learning ($p= .019$) was found with low effect size ($\eta^2= .016$). This indicated high level of peer support experiences by online students as compared to face-to-face ones. The findings in table 9 also revealed that peers support ($p= .000$) significantly influence academic resilience of students with moderate effect size ($\eta^2= .115$).

Table 10 Two-way Analysis of Variance for Academic resilience across Teachers support and Mode of learning

Source	Type III Sum of Squares	df.	Mean Square	F	p	Partial Eta Squared
Teachers Support	42150.817	2	21075.408	44.873	.000	.152
Mode of learning	727.793	1	727.793	1.550	.214	.003
Interaction	2647.989	2	1323.995	2.819	.061	.011

Note. Significant at $p < .05$

In addition, the interaction effect of teachers' support and mode of learning was not significant ($p=.061$) on academic resilience of students. Besides, a significant effect of teachers' support ($p= .000$, $\eta^2=.228$) on academic resilience of students were found with high effect size.

Therefore, the interaction effect of peer support and mode of learning was significant, suggesting that null hypothesis 1 was rejected.

Table 11 Descriptive Analysis of Social Support based on gender and mode of learning

Table 11 Descriptive Analysis of Social Support based on gender and mode of learning							
Gender in different modes of learning							
Subscales	Male				Female		
	Face-to-face Learning (N=87)		Online learning (N=147)		Face-to-face Learning (N=113)		Online learning (N=158)
	M	SD	M	SD	M	SD	M

1. Family Support	65.62	11.53	66.57	19.06	70.17	10.92	70.05	17.27
2. Peers Support	64.93	13.81	67.44	21.41	69.96	12.69	64.23	19.82
3. Teachers Support	51.89	10.18	51.43	14.76	53.40	9.73	48.15	16.11
Social support Overall	182.44	28.56	185.44	51.09	193.52	27.55	182.43	47.83

Note. N= 505, M=Mean, SD= Standard Deviation

Two-way Multivariate Analysis of Variance was performed to examine the difference in gender with varied modes of learning to social support and their agents. The dependent variable included agents of social support i.e., family support, peers support and teachers support. The independent variable was gender and mode of learning. The descriptive statistics in Table 11 revealed that peers support is greater in females (M=69.96) as compared to males (M= 64.93) in face-to-face learning environment. In contrary, peers support is greater among males (M=67.44) than females (M=64.23) in online learning environment.

Table 12 *Two Way Multivariate Analysis of Variance for Social Support across Gender and Mode of learning*

Table 12: Two Way Multivariate Analysis of Variance for Social Support across Gender and Mode of Learning						
Independent Variable	Multivariate Statistics					
	Wilk's Lambda	F	Hypothesis df	p		
Gender in different modes of learning	.979	3.51	3	.015		
Dependent Variable	Univariate Statistics					
	Scale	F	df.	R2	P	η^2
Family Support	0.13	1	.015	.712		
Peers Support	6.21	1	.015	.013	.012	
Teachers Support	3.72	1	.021	.054		
Social support Overall	3.31	1	.011	.069		

Note. Significant at $p < .05$

The multivariate test statistics in Table 12 revealed that there is a statistically significant difference ($p=.015$) among social support across gender and modes of learning on combined dependent variable ($F= 3.51$, Wilk's Lambda=.979). The significant multivariate test proposed to explore the subsequent differences of social support in two different genders and two different modes of learning on four dependent variables explained by the independent variable.

Additionally, when the results of dependent variable (family support, peers support, teachers support and total social support) were analyzed individually using univariate test statistics. There was significant difference among gender and mode of learning on the dependent variable peers support ($p= .013$, $\eta^2=.012$) with low effect size. The male students experienced more support in online learning environment. Whereas female students experience more support from their peers in face-to-face learning environment. This suggests that null hypothesis 2 was rejected.

Table 13 *Descriptive Analysis of Social Support based on gender and mode of learning*

Subscales	Job Status in different modes of learning							
	Unemployed				Employed			
	Face-to-face Learning		Online learning		Face-to-face Learning		Online learning	
	(N=159)		(N=195)		(N=41)		(N=110)	
	M	SD	M	SD	M	SD	M	SD
Family Support	69.26	10.77	70.05	17.31	64.02	12.84	65.41	19.43
Peers Support	67.68	13.47	65.56	20.06	68.12	13.23	66.15	21.69
Teachers Support	53.19	9.67	50.00	15.10	51.00	10.83	49.25	16.34
Social support overall	190.13	27.76	185.61	46.85	183.15	30.73	180.81	53.63

Note. N= 505, M=Mean, SD= Standard Deviation

Two-way Multivariate Analysis of Variance was applied to examine the difference in job status with varied modes of learning to social support and their agents. The dependent variable included agents of social support i.e., family support, peers support and teachers support. The independent variable was job status and mode of learning. The descriptive statistics in Table 13 showed that social support was better among unemployed students in face-to-face learning environment (M= 190.13) and online ones (M= 185.61).

Table 14 *Two-way Multivariate Analysis of Variance for Social Support across Job status and Mode of learning*

Table 11 Two way Multivariate Analysis of Variance for Social Support across Job Status and Mode of Learning					
Independent Variable	Multivariate Statistics				
	Wilk's Lambda	F	Hypothesis df	P	
Job status in different modes of learning	.999	.153	3	.928	
Dependent Variable	Univariate Statistics				
	Scale	F	df.	R2	P
Family Support		.033	1	.019	.857
Peers Support		.001	1	.003	.971

Teachers Support	.250	1	.014	.617
Social support Overall	.059	1	.007	.808

Note. Significant at $p < .05$

On the other hand, Two-way Multivariate Analysis of Variance was performed to examine the difference in job status with varied modes of learning to social support and their agents. The dependent variable included agents of social support i.e., family support, peers support and teachers support whereas independent variable was job status (employed and unemployed) and mode of learning (online and face-to-face). The multivariate test statistics in Table 12 revealed that there was a non-significant difference ($p = .928$) among social support across job status and modes of learning on combined dependent variable ($F = .153$, Wilk's Lambda = .999). This recommends that null hypothesis 3 was accepted.

Discussion

The findings of the research revealed that conventional and distance students received high levels of social support. The findings of Sujarto et al. (2022) were consistent with current research as university students experience high levels of social support in independent learning program. While these findings contradicted the work of Rukmana and Ismiradewi (2022). They argue that students have moderate level of social support and academic resilience in online learning environment.

Role of peers' support in academic resilience of students

There was significant difference among academic resilience of students due to peer support in different modes of learning. The findings further highlighted that peer support highly influence academic resilience of online students.

Moreover, current research found that students' academic resilience was significantly influenced by family, peers and teacher support. More specifically, peers support in different modes of learning was significantly influencing the academic resilience of students. The findings are aligned with of Lady (2021) that positive relationship was found among perceived social support and academic resilience. In addition, friends support was highly influential for students in online learning environment in higher education. Similar findings were identified among high school students (Rustham et al., 2022). Therefore, support from social networks and academic resilience ensure involvement of students in online lectures (Adhawiyah et al., 2021). Moreover, self-efficacy and social support enriches the academic resilience of students experiencing online learning environment (Rukmana & Ismiradewi, 2022).

The current research also found that academic resilience of students in face-to-face learning environment were highly influenced by teachers support. They are considered to be the most reliable source of guidance and their appreciating attitudes enable students to resiliently deal with academic stressors (Ahmed et al., 2018). On contrary, online students' academic resilience was significantly influenced by peers' support as they encourage and guide their fellow students to deal with learning challenges and develops a sense of belongingness among them (Putri, & Nursanti, 2020).

The current research identified that academic resilience of students in online learning were affected more by family support than face-to-face students. These findings are aligned with the work of Permatasari et al. (2021) that family support significantly contribute in academic resilience of online students. Similarly, peers' support facilitated the academic resilience traits of online students more than that of face-to-face ones. The work of Rustham et al. (2022) was aligned with these findings. They argued that peer social support reinforces academic resilience among students in online learning.

Hence, social support and academic resilience influence students from tertiary education in both online and face-to-face learning environment. Furthermore, these constructs were positively correlated. The findings of the current research suggested that adaptive coping mechanisms, personality traits (extraversion, agreeableness, conscientiousness, and openness) and academic performance of students significantly predicted the academic resilience traits of students (Findyartini et al., 2021). Moreover, resilience building strategies may focus on self-regulation trainings to strengthen time management, self-motivation and planning skills to engage effectively in their learning practices (Darabi et al., 2023).

Moreover, interactive tools and online modules enable students to foster resilience traits in online learning settings (Chong et al., 2022). Likewise, Warshawski (2022) identified that reflective practices, problem based learning and experiential learning activities enhance academic resilience traits among higher education students.

Role of demographic factors in social support among students

Social support significantly differentiates students across genders in different modes of learning. The female students experience greater support from their peers in face-to-face learning environment whereas male students experience better support experiences from their peers in online learning environment.

In addition, demographic factors played a substantial role in influencing social support. The current research found significant influence of social support based on gender. The results further identified that social support of females was better than males in face-to-face learning. However, social support of males was higher than females in online learning. These findings were supported by the work of Ulfah and Ariati (2017). They found significant gender differences in support from peers. However, Putri and Nursanti (2020) found no significant differences in peer support among male and female migrant students in Jakarta. Besides, there was no significant effect of job status on students' social support experiences in face-to-face and online learning mode. Although, mean scores indicated that unemployed students experienced better social support in face-to-face and online learning environment than employed ones.

In short, the literature concerning social support and academic resilience in online learning found moderate level of academic resilience and social support (Rukmana & Ismiradewi, 2022; Wiyanti et al., 2021). Moreover, Rustham et al., (2022) also identified no significant gender differences among peer social support and academic resilience, but Ulfah and Ariati (2017)

found significant gender differences in social support of peers. Although, Fang et al., (2020) argued that family and peer support positively influence academic resilience of elementary students. The researcher revealed that moderate relationship was found between resilience and social support among international students (Sabouripour & Roslan, 2015) and a positive relationship among high school students (Achour & Nor, 2014) in Malaysian context. Dawson and Pooley (2013) also found a positive relationship between resilience and social support among university students. Similarly, Bukhori et al., (2017) found that social support from family significantly influenced student's resilience in final semester. Eventually, social support and academic resilience relieves the stressful learning experiences arising out of limited communication, adjustment problems, socio-economic status, and complex technological procedures among online students.

Conclusions

Therefore, it can be concluded that transformed learning practices are revolutionizing the learning practices at higher education and its need of the time to cater the challenge of students to optimize their performance. The students in online learning environment reported more cases of compromised support from their family, peers and teachers as compared to face-to-face students. The overall peers' support was found on average level in online and face-to-face learning environment. The fewer interactive learning experiences for online students lead to academic isolation which increases the dropout rate. The strategies to cater with the diversified needs and learning challenges of students in online learning environment through collaborative learning activities as reflective practices, experiential learning, and problem-based learning procedures (Warshawski, 2022) while incorporating discussion boards to engage students with their peers and instructors frequently. These practices will enhance the retention of students in online learning environment. On the contrary, teachers' support was relatively better among students in face-to-face learning environments as they have more interaction during their academic activities. They were able to discuss their academic issues and problems with them and receive feasible solutions. Moreover, group discussion ensures an enriched learning environment with remedial activities where needed, which motivates students to work hard and continuous feedback boost their confidence to deal with diversified academic activities.

Limitations

The present study is subject to several limitations. Firstly, the absence of postgraduate students from the sample could lead to variations in responses, as their unique learning challenges may not be represented. Secondly, employing a larger sample size could enhance the comprehensiveness of the study, offering deeper insights into the diverse disciplines and background factors of students. Lastly, a more detailed inquiry into students' significant academic challenges could provide valuable additional insights.

Recommendations

Future research endeavors should heed the following recommendations for further exploration. Firstly, employing self-report inventories alongside interview schedules could facilitate a more nuanced comprehension of the social support structures within student populations. Secondly, incorporating additional activities to foster interaction between teachers and peers in online learning environments may prove beneficial. Lastly, the integration of interactive learning activities and materials could offer essential support to students navigating online modes of education. These suggestions warrant attention in subsequent research endeavors to enhance our understanding and support mechanisms within educational contexts.

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