Article

Digital social support for undergraduate students during COVID-19: Pivotal support for the digital transformation

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Abstract

Background: In a time of crisis, such as the COVID-19 pandemic, digital social support can prove helpful in buffering the stress and anxiety especially for students whose lives were being affected both socially and academically. The present study aims to explore the emotional and informational social support available to students during the online transformation of their education. It further investigates factors affecting anxiety and stress among students.

Design and methods: An online survey was administered among 479 undergraduate students at a private university in Saudi Arabia from 2nd March till 17th June 2020. Descriptive analysis was used to report the findings of students' self-reported data.

Results: The results revealed that more than 70% of the students reported that they were satisfied with the informational and emotional support available to them via digital platforms. However, they felt less connected with the teachers and academic administration. Feeling sick (46%), being locked down at homes and isolation (43%) were major causes of stress and anxiety. 71% of the students reported their ability to keep themselves busy, however, only 55% of students mentioned that they did not feel lonely while confined to their homes. In these circumstances, the continuation of studies via online platforms helped students reduce stress and anxiety (52%).

Conclusions: Although this online transformation was not planned, the university was able to provide adequate informational support to the students. However, students were dependent upon friends, family and relatives for emotional support. The results of the study point towards the need of training for teachers and academic administrative staff in order to better address students' needs for social support during the crisis. The results also contribute to the body of data reporting the various effects of the COVID-19 pandemic on students in a way to reach a sustainable framework for supporting students.

Introduction

The COVID-19 pandemic, taking the world by storm, has con-tributed to the overwhelming global sentiments of fear, anxiety and stress-related to the virus, while various populations tried their best to get on with their lives. Even though measures like staying home and social distancing might have contributed to reducing the spread of the virus, people, especially vulnerable individuals, reported feelings of anxiety.[1] In the field of higher education, the online transition during the lock-down and the ensuing social distancing procedures presented itself as an ideal solution. However, this solution further enhanced the social isolation resulting in higher levels of anxiety and stress among students.[2] In the mean-time, social support was proven helpful in buffering various aspects of anxiety and stress to cope with an unprecedented disruption of both personal lives and academic practices.[3]

Much seminal work in the field of social support has described the term as helpful behaviours[4] and communicative actions which ensure the provision of effective wellbeing, information, awareness, understanding and material exchange.[5,6] Cohen and Wills[7] argued that social support can prove helpful in minimizing the effect of stress on physical and psychological health. However, it may only prove beneficial if it is provided at the right time[8] and by the right person.[9] Digital social support is considered a means to enhance the domain in which the traditional social support dwells, by making use of the digital tools. Digital social support has been seen to play an exponentially strong role in lessening social isolation, a mental condition that feeds on reduced social contact and deficient relationship when tackled with the help of social inclusion, propounds a sense of belonging and association.[10] Social media, mobile technology and web services have entirely recreated the working pattern of the support mechanism, most significantly the generation of instantaneous response to the upfront issue reinforces its viability.[11]

Social support has proven its worth in the field of education through many research studies. Researchers have pointed out that social support helps students and youths in challenging situations to overcome stress and depression.[12-14] Hence, it promotes the feeling of comfort, perceived care and esteem that one receives from people or groups associated to them.[15] Social support for students comes from multiple sources which include friends, teachers, classmates, parents and the general faculties at the academic institute.[16] Furthermore, social support is highly influenced by the

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Significance for public health

This article emphasizes the effectiveness and the need for social support in the higher education sector during the COVID-19 pandemic. The results of the study prompt the higher education management and policymakers to develop training programs in social support for teachers and admin staff to help maintain student's mental and psychological well-being during any such future crises.

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context and culture. Marhaman and Hamzah[15] pointed out that social support can have different meanings and diverse ways of the provision in different countries due to social and cultural differences. It is also highly influenced by age, gender and social relationships. For example, in the case of schools, student welfare was found to be affected by the ethnicity of the community, the working status, income of the parents/ families, living arrangements and the education levels.[15] With the lockdown and social distancing, social support had to take place online, thus becoming a part of the digital transformation. The conceptual framing for the study, thus, draws upon the literature inspecting social support while attending to the gap of research that explores digital social support in higher education. In doing so, it is crucial to note that all previous research examining students' online education drew from a completely different context where students chose an online learning environment when face-to-face classes were not convenient.[17-19] In the current study, there is a unique situation of a forced and abrupt online transition due to COVID-19 lockdown. This variable should be taken into consideration as a possible factor of anxiety or need for support, both technical and psychological. Social support has been classified into several major categories by various researchers.[6,16,20-22] Emotional support is more of a physical comfort like a hug, listening, and empathizing with each other.[6,23] Letting others know that you are there for them is also considered emotional support. Informational support is done in terms of advice-giving.[6] It can also be gathering and sharing of information which can help in knowing of a better next step that can work out. Esteem support is mostly defined as a message which helps in promoting or reviving one's hidden ability, skill, or internal value.[5] Instrumental support is provided by taking responsibility for another person's problem. It's also helping others to manage and solve their problem by taking action. Finally, the social integration support is perceived as promoting a sense of belonging.[6] Social integration is more towards kinship and relationships rather than social action and interactions.[16] However, such support usually targets special needs students or underrepresented students.[20] They are identified as students who fail to achieve their full ability or "their abilities may not be accurately measured with traditional assessment".[24] The present study focuses on only two main categories: informational support and emotional support.

In the present state of COVID-19 pandemic, there are several factors affecting fear and anxiety during the COVID-19 pandemic such as poor understanding of government decisions, misinformation circulating media channels and difficulty of understanding track and surveillance measures.[25,26] It is in such a context that digital social support became a need among students having to deal with feelings of anxiety, stress and isolation. In Saudi Arabia, the literature points out the need to provide educational support to students with special needs or learning disabilities, but seldom explore other students for special support.[27] The present study is contextualized in a private university in Saudi Arabia and aims to explore students' response towards perceived digital social support during the lockdown and transition to online teaching and learning caused by the COVID-19 pandemic. The study focuses on only two types of digital social support: informational and emotional social support. It further aims to explore the factors affecting anxiety and stress among students during online transformation. Hence the study aims to explore the following research questions.

1. Which factors affected students' perceived emotional and informational support during the online transformation amidst the COVID-19 pandemic?
2. Which factors affected the anxiety and stress among students during online transformation amidst the COVID-19 pandemic?

Design and methods

The current study utilized quantitative research design. Using quantitative analysis arises from the need to establish an empirical dataset that contributes to the rising body of data exploring the various effects of the COVID pandemic. A quantitative approach proves suitable where a large sample is available to inspect a common research question. This study follows the pattern successfully employed in various research studies that adopt a quantitative technique for inspecting a similar research topic. RStudio was used for the quantitative analysis of the data.

The convenience sampling technique was used for data collection. In order to send the survey to the maximum number of students, the survey was administered online via University Announcement Service from 2nd March till 17th June 2020. The survey was developed on an online survey development platform i.e., www.surveyhero.com and the link for the survey was provided to the University Announcement Service. Consent forms were included in the first part of the survey. The consent form explained the nature of the study and assured voluntariness and anonymity for participants as specified by the university IRB committee clearance. A yes/no question was included in the consent form to confirm the voluntary participation of the students.

Social support survey

The Social Support survey was developed to identify two different types of social support (informational and emotional) received and recognised by the students. The survey consisted of 41 items distributed over six sections. It was a combination of multiple-choice, tabular, yes/no, open and closed questions. A five-point Likert scale; strongly agreed, agreed, neutral, disagree, and strongly disagree was used to determine students' response toward social support being provided during the COVID-19 pandemic. The estimated time to complete the survey was approximately twelve minutes. A 0.86 value of Cronbach's Alpha (α) depicted the reliability of the instrument through overall internal consistency reliability. As mentioned earlier, the first section of the survey consisted of the consent form. The second section comprised of four items and sought demographic information related to age, gender, major of study and the year of study. The third section of the survey explored the kind of informational support received by the student at college. This section consisted of six items and responses were documented by using a five-point Likert scale. The fourth section consisted of seven items with a five-point Likert scale tabular distribution of response options taping into emotional support. The fifth section consisting of ten items gathered information about what kind of support was being provided by the teachers and the administration. This is parallel to informational support. The last section of the survey taps into the role of family members in supporting the students through the quarantine period. This section consisted of ten items and was focused on emotional support.

Participants

The target participants of the study were students studying towards their undergraduate degrees at a private university in Saudi Arabia. The total population size was 491, however 479 complete surveys were received by the end of data collection period. The data set consisted of 304 female and 175 male students with overall age range of 18 to 25 years (Table 1). The participants were studying five major disciplines; architecture, computer sciences, humanities, management sciences and law. Gender distribution of students from each major study is provided in Table 2.

Results and Discussion

In order to create a holistic picture of the results, the five-point Likert scale was narrowed down to three points by combining *strongly agree* and *agree* into *agree,* and *strongly disagree* and *disagree* into *disagree*.

Informational support

Informational support involves information, supervision, assistance and mentoring, which could help people feel less apprehensive and worried about an uncertain situation.[28] Especially, in the case of infectious disease, awareness plays an important role to mitigate the effects of resulting anxiety among people. This point was also stressed by Alahdal *et al.*[29] who concluded that in the case of the COVID-19 pandemic, spreading awareness was as important and crucial as developing a vaccine for the disease.

The results of the present study revealed that 88% of the students reported that they were well-informed about the pandemic. They (94% of the students) understood how to keep themselves safe and the line of action to be taken in case of coming close to a COVID-19 patient (82% of the students). It was interesting to note that 77% of the students reported that they were aware of the treatment programs for COVID-19, however, a relatively lower percentage of students (66%) wanted to have additional awareness programs related to COVID-19. Figure 1 shows students' attitude towards perceived informational support related to COVID-19.

Due to lockdown, the university was closed for all on-campus teaching and learning activities for an undecided period, which meant an immediate change not only in the mode of teaching and learning but also an increase in the uncertainty revolving around the continuation of studies and overall academic life. Hence, students sought information not just related to the COVID-19 pandemic but also the changes implemented to their current and future semesters. The analysis of the digital social support survey revealed that even in this unclear and unforeseen situation, students felt well-informed about the way their studies were going to proceed (68%) and the kind of changes that were made in their studies (67%). They (62%) further pointed out that they perceived university as a helpful institution to help them cop with the situation facing them. Similar findings were reported by Aristovnik *et al.,*[30] where students expressed their satisfaction over the role played by the universities during the COVID-19 pandemic. The following Figure 2 shows the complete picture of students' response towards informational support provided by the university related to academics. When analysed on the basis of gender differences, the data indicated no differences between male and female students' attitude towards perceived informational support. However, the students with Architecture as a study major (74%) were less confident about being well informed about the epidemic and perceived that the university was less helpful in coping with the current situations (38%) as compared to students with Management Sciences (89%, 67%), Humanities (83%, 56%), Computer Sciences (87%, 56%) and Law (89%, 64%).

Emotional support

While describing the social relationships, Mental Health Foundation[31] emphasised the quality of social relationships rather than quantity. Lack of good social relationships results in long-term loneliness which is one of the main causes of anxiety. In the current circumstances, the availability and reliability of social relationships become more crucial, especially for the young generation. The results of the present study revealed that a significant number of the students (more than 70%) reported overall satisfaction over the social support available to them. Approximately 87% of the students reported that they could rely on a family member, relative or friend in case of getting sick or needing any kind of help. A slight difference between male and female students' self-reported data (90% female students, 81% male students) related to the above-mentioned criteria was observed. Furthermore, more than 90% of the students had confidence in getting good advice from their social contacts/relationships. These social relationships were there to listen to the students in case they felt lonely or upset. Similar findings have been concluded in many previous studies which have pointed out the positive effects of the social support offered through social relationships on general well-being and happiness[32-35] as well as a remedy against depression and anxiety.[36] When analysed on the basis of gender, the data revealed that there

Table 1. Students from each year.

Year of study	Male	Female	Total
Freshmen	74	158	222
Sophomore	65	75	140
Junior	23	41	64
Senior	13	30	43
Total	175	304	479

Table 2. Participants from each study major.

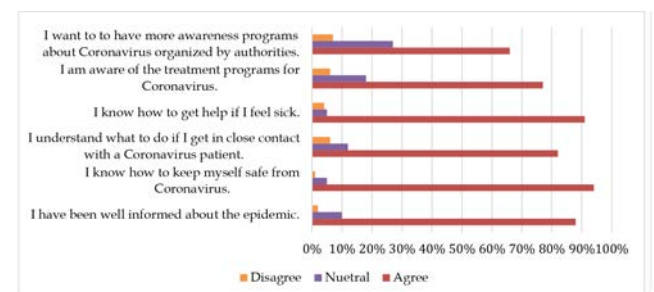| Study major	Male	Female	Total
Architecture	2	40	42
Computer Sciences	65	43	108
Humanities	3	72	75
Management Sciences	75	67	142
Law	30	82	112
Total	175	304	479

Figure 1. Informational support related to Covid-19.
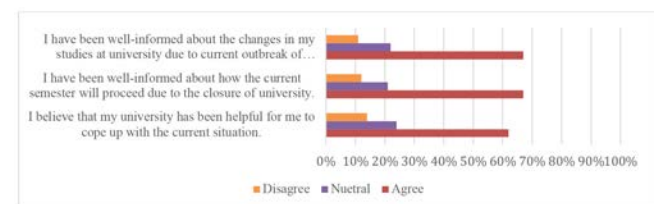

Figure 2. Informational support related to change in academics.

was a slight difference between male (84%) and female students' (94%) self-reported data related to the availability of a family member, friend or relative in order to seek good advice. It was interesting to note that the majority of the students (87%) reported the availability of a family member, relative or friend at home to keep them company during the lockdown period. The data also revealed that a higher percentage of female students (85%) reported the availability of a family member, friend or relative especially in the case of feeling upset or lonely as compared to male students (72%). Moreover, 70% of the students were willing to extend the favour to a friend by providing him/her company via social networking in case of the former's subjection to quarantine in the leu of COVID-19 diagnosis. Similar findings have been reported by Papouli *et al.*[37] In a recent study conducted in Greece amongst COVID-19 crisis, researchers (2020) concluded that the majority of the students not only made decisions for their well-being but were also eagerly involved in offering volunteer help related to daily living assistance, psychosocial support services, social community engagement, family support as well as learning and informational support. When analysed on the basis of study majors, no significant differences were found between students studying law, management sciences, humanities, computer sciences and architecture.

Anxiety and stress

The results of the study revealed that students reported various sources of anxiety during the pandemic. Going out of home (47%) and feeling sick (46%) were among the main reasons for anxiety. The majority of the students (96%) reported that they felt safe while staying at home. However, this isolation further enhanced the spectrum of sources for anxiety. Sundarasen *et al.*[38] has reported similar findings in a study conducted in the COVID-19 context. The researchers (2020) reported that the feeling of loneliness was directly related to anxiety among students living alone and away from friends and family. Similarly, the results of the present study showed that being physically away from friends and family not only enhanced anxiety and fear (43%) among students but also made them sad and angry (51% of the students). On the other hand, this isolation did not affect their relationship with their friends negatively (58%). As far as their studies were concerned, 52% of the students reported that continuation of their studies *via* online platforms had helped them in lowering their anxiety. However, only 39% of the students reported that their bond with their teachers was not negatively affected by staying at home. It was interesting to note that there was no significant difference between male and female students' self-reported data related to anxiety. This is contrary to the findings of many studies[38-40] which concluded that females' less tolerance of uncertain situations and higher emotional exposition ability was likely to cause a higher level of anxiety. Figure 4 reports the data related to anxiety. On the other hand,

slight differences in the reported data related to the sources of anxiety were observed between students with different majors. Table 3 shows the significant differences on the basis of the above criteria. Table 3 shows a slight difference in the reported data related to the sources of anxiety among architecture and computer science students when compared to the other majors. One of the reasons could be that these two majors heavily rely on practical work which was difficult to manage in online environments, especially when the online transition was very abrupt and without any prior planning and preparations.

Another theme, "isolation", emerged as a source of anxiety during the analysis of students' responses. Due to lockdown, social isolation and distancing, students were confined to their homes. In these circumstances, feeling isolated could be a common emotion among students. It was interesting to note that 71% of the students reported their ability to keep themselves busy, however, only 55% of the students mentioned that they did not feel lonely while confined to their homes.
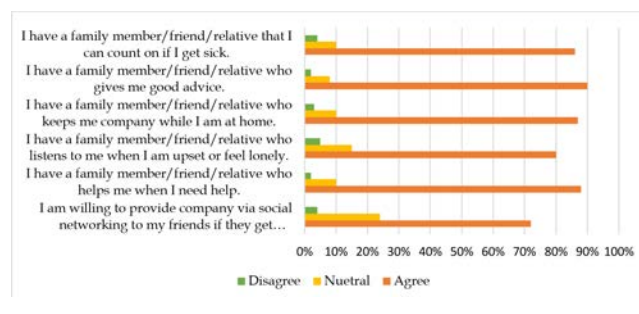

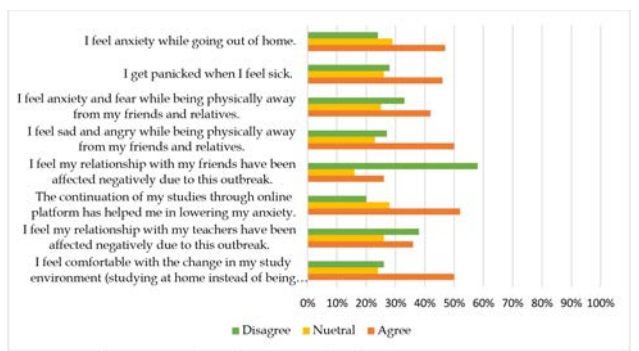**Figure 3. Support from family members, friends, and/or relatives.**

Figure 4. Students' perceptions about sources of anxiety.

Table 3. Perceptions about sources of anxiety reported by students with different study majors.

	Law	MS	H	CS	Arch
I feel anxiety while going out of home.	48%	49%	48%	35%	33%
I get panicked when I feel sick.	50%	48%	43%	32%	33%
I feel anxiety and fear while being physically away from my friends and relatives.	48%	44%	45%	33%	26%
I feel sad and angry while being physically away from my friends and relatives.	54%	64%	56%	39%	38%
The continuation of my studies through online platform has helped me in lowering my anxiety.	55%	57%	43%	43%	33%
I feel my relationship with my teachers have been affected negatively due to this outbreak.	31%	41%	29%	41%	17%
I feel comfortable with the change in my study environment (studying at home instead of being at university).	50%	53%	43%	44%	33%

A further analysis revealed that there was a slight difference between male (61%) and female (51%) students' response towards not feeling isolated at home (Figure 5). Similarly, 69% of the female students reported that they knew how to keep themselves busy at home as compared to 74% of the male students. Furthermore, students with architecture major (38%) felt more isolated or lonely as compared to law (58%), management sciences (58%), humanities (41%), computer sciences (48%) students. Similarly, architecture students (52%) felt less socially connected with their friends and family as compared to law (74%), management sciences (64%), humanities (68%), computer sciences (67%) students. More than 70% of the students reported using online platforms to avoid loneliness and keeping socially connected with friends and family. Similar findings were reported by many studies[30] where researchers concluded that the COVID-19 pandemic and the closure of academic institutes had negatively affected students' social life. In these circumstances, students reported a higher use of online platforms to communicate with their friends and family on daily basis.

It was interesting to note that this feeling of isolation was not just due to the inability to carry on social life outside their home, rather it extended to their academic life as well. Much seminal work has pointed out that classrooms are social places where students socially interact with their peers and teachers while working towards their academic goals.[41,42] Furthermore, these social interactions are reported to be crucial for a healthy and positive educational environment.[43] In the current circumstances, maintaining these social interactions within the educational environment becomes more important due to the prevailing isolation and uncertainty faced by the students.

However, the results of the present study revealed that students did not feel connected with their teachers and class fellows. Only 39% of the students reported that they felt more connected with their teachers and class-fellows during the lockdown and taking online classes. Besides, only 36% of the students reported an easy interaction with their teachers via digital platforms. Even contacting administrative staff was not considered viable through phone or email (49% of the students reported that contacting administration staff via phone or email was easier). Figure 6 shows students' perceptions about being connected with students, teachers and administrative staff at the university.

A further analysis of the data revealed that the students with architecture study major (17%) felt less connected with the students and teachers while studying from home as compared to other study majors such as law, management sciences, humanities and computer science (46%, 40%, 36%, and 33% respectively). Similarly, contacting teachers and administrative staff was perceived less convenient by the architecture students (22%) as compared to law, management sciences, humanities and computer science students (47%, 43%, 40%, and 37% respectively). There was no significant difference found between male and female students' responses.

Implications

The data reveals the relevance of social support within digital contexts as a factor affecting students' online experience in the context of the study. The numbers provide pointers to the components of social support that can affect students' performance during the current transition and beyond. These pointers cover certain criteria of the social support necessary during the pandemic. The majority of the students reported that they were well informed about the pandemic, safety measures as well as medical treatment procedures available as a cure. The results of the study also report-

ed that the informational support available to the students was two-fold. Students required information not only about the pandemic but also about the academic changes in their courses due to online transformation. Overall, students reported university as a helpful institution in this uncertain situation.

Furthermore, in this online transformation and lockdown scenario students were bound to stay at their residences for an uncertain period. This gave rise to feelings of anxiety, isolation, anger and sadness. However, students were able to keep themselves busy and connected with their friends and family through digital platforms. Overall, students were satisfied with the social support available to them and they felt confident about its availability when needed. They did not always perceive themselves to be at the receiving end, rather, they further volunteered to offer social support via digital platforms to others in need.

Social support is an important factor in relation to academic motivation and general wellbeing during the current pandemic. Our results conform with the global conversation pointing out the negative effects of COVID-19 on the levels of stress and anxiety[44] which negatively affects students' motivation level. Another factor that is considered as an element of social support is students' acceptance of emergency online learning as it contributes to fewer stress levels.[45] The results of the present study also contributed to this notion, where students mentioned that continuation of their studies via online platforms helped lower their anxiety levels.

Finally, the results of the present study reported that students felt distanced from their teachers during the online transformation. They reported that they felt confident about social support provided by their friends, family and relatives, however, they were not confident about their ability to reach out to their teachers as easily as their friends, family or relatives. This also points out towards the fact that teachers were not ready to fully support their students in the time of crisis. Moore[46] contributes a view that offering support for students in an online environment should be "proactive" rather than reactive (p. 143). He specifies areas of student support to include student-generated issues, technical issues and emotional stress. Provision of these aspects of social support requires training
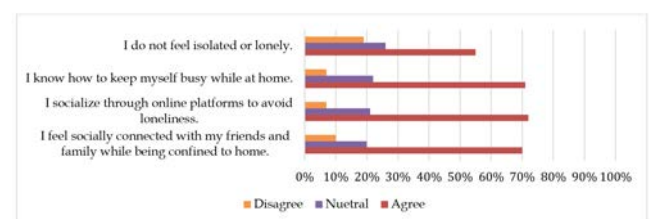

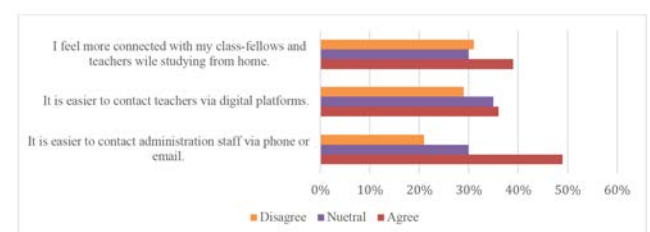**Figure 5. Students' perceptions about isolation and loneliness.**

Figure 6. Students' perceptions towards being connected with teachers and students.

which is another challenge that is faced when implementing social support; this is where administrators and teachers are not trained; hence, they are not able to inform and advise students in the right way. This further points out the necessity of organizing training courses for teachers and people who are involved in offering social support in an educational setting.

Limitations and future research

It is important to note a few limitations related to the study. Firstly, the context of the study was limited to one educational institute. Data collected from a larger population from various educational institutes can add diversity to the context of the study and hence can produce different results. Secondly, the present study was focused on two types of social support: emotional and informational. Further research is needed to explore students' perceptions about esteem, social inclusion and tangible support. Thirdly, the present study was focused on students only, further research can explore teachers' and administration's role in receiving and providing social support in an educational context. Finally, there

should also be further research on psychological well-being and post-traumatic stress issue (PTSD) related to the COVID-19 pandemic among students, teachers and academic administrators.

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