

Pandemic Consequences upon College Freshmen's Lives in the Context of Online Education

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Abstract

Keywords:
pandemic; students; online education; consequences.

Covid-19 pandemic raised many difficulties in all life's domains across the globe. The need to adapt was omnipresent and accelerated the emergence of novelty or innovative approaches. Online education for the students enrolled into the 2020/2021 university year was a bigger challenge than for any others. This generation has finished high school in a traditional face to face system and instead of having to deal only with the ordinary challenges of transitioning to face to face college, they've been forced to add to it the novelty and uncertainty of the online education during pandemic. The aim of the present research was to identify how pandemic influenced aspects of our college freshman's life and if they differentiated between positive and negative. Data processing was done with the help of IBM SPSS Text Analytics for Surveys. Following our demarche, we can conclude that our respondents faced numerous negative aspects in this period of their lives due to the pandemic, but the worst of them referred to social, psychological and educational aspects. The positive side of this period from the perspective of our respondents was time, which was used to consolidate connections with family, friends and self. The presence of a pronounced negatively triangle between the general state, social interaction and psychological risks and existence of eight positive categories with a low density of answers, in contrast to nine negative ones with a high density, makes us believe that the effects of this pandemic upon our respondents were rather negative than positive.

Zusammenfassung

Schlüsselworte:
Pandemie; Studenten; Online-Bildung; Folgen.

Die Covid-19-Pandemie hat weltweit viele Schwierigkeiten in allen Lebensbereichen aufgeworfen. Die Notwendigkeit zur Anpassung war allgegenwärtig und beschleunigte die Entstehung von Neuheiten oder innovativen Ansätzen. Die Online-Bildung für die im Studienjahr 2020/2021 eingeschriebenen Studierenden war eine größere Herausforderung als für alle anderen. Diese Generation hat die High School in einem traditionellen Face-to-Face-System abgeschlossen und musste sich nicht nur mit den gewöhnlichen Herausforderungen des Übergangs zum Face-to-Face-College auseinandersetzen, sondern war gezwungen, die Neuheit und Ungewissheit der Online-Bildung hinzuzufügen Pandemie. Das Ziel der vorliegenden Forschung war es herauszufinden, wie die Pandemie Aspekte des Lebens unseres Studienanfängers beeinflusste und ob sie zwischen positiv und negativ unterschieden. Die Datenverarbeitung erfolgte mit Hilfe von IBM SPSS Text Analytics for Surveys. Nach unserer Demarche können wir feststellen, dass unsere Befragten in dieser Zeit ihres Lebens aufgrund der Pandemie mit zahlreichen negativen Aspekten konfrontiert waren, aber die schlimmsten davon bezogen sich auf soziale, psychologische und pädagogische Aspekte. Die positive Seite dieser Zeit war aus Sicht unserer Befragten Zeit, die genutzt wurde, um Verbindungen zu Familie, Freunden und sich selbst zu festigen. Das Vorhandensein eines ausgeprägten negativen Dreiecks zwischen Allgemeinzustand, sozialer Interaktion und psychologischen Risiken und das Vorhandensein von acht positiven Kategorien mit einer geringen Antwortdichte im Gegensatz zu neun negativen mit einer hohen Dichte lassen uns glauben, dass die Auswirkungen dieser Pandemie auf unsere Befragten waren, eher negativ als positiv.

1. Introduction

Covid-19 pandemic raised many difficulties in all life's domains across the globe. Activities which until then were taken for granted, like travelling, going to work, going to school, meeting with friends, procuring groceries, walking in the park, etc. suddenly became hard or even impossible to do because of the restrictions imposed by authorities. The need to adapt

was omnipresent and accelerated the emergence of novelty or innovative approaches.

Some countries were more prepared than others and thus an inequality emerged. National culture and socio-economic development played a key role in this matter, reiterating the need of investments in

education. As there are differences between countries, there are differences between domains and those that could lack human interaction quickly found a working solution by transposing activities into the online environment, but those who relied on it suffered the most.

Inequalities are a recurrence, because as they are valid at the level of a country or domain, they are also valid going further down the line. So, within the domain of education we could distinguish an expression of this inequality between courses that could be easily moved into the online environment, like mathematics, philosophy, economy, etc. and those which couldn't be due to their more practical hands-on approach, like medicine, arts, physical education and sport, etc. If for the first ones the loss of the physical component was bearable, for the second ones become crucial in the formation of future specialists. By being deprived of human interaction, future specialists not only lost due the pandemic practical experience, but their personal development had also been affected.

2. Theoretical foundation

Transition from high school to college can be a stressful period for most of the students, especially if they come from troublesome families (Fei et al., 2021; Moreira & Telzer, 2015; Bernier et al., 2005). Separation from their parents is hard (Allen & Stoltzenberg, 1995) and more so once admitted to college their life journey begins but not without new challenges. Mental health problems represent a major issue among college freshmen's (Bruffaerts et al., 2018), as well as homesick (English et al., 2017), increased alcohol and tobacco use (LaBrie et al., 2007; Lenz, 2004) or physical activity decrease (Downes, 2015), all which could have favored the surfacing of the "Freshmen 15" concept (Baum, 2017; Mihalopoulos et al., 2008).

Fortunately, their coping mechanisms do not have to work so hard if family support is received during transition (Levens et al, 2016) or in case of marginalization (Llamas, et al. 2012). Also, this period in their lives could be less stressful if they manage to stay in touch with old friends (Abeele & Roe, 2011) or take part to learning strategies workshops (McDaniel et al., 2021).

The COVID-19 pandemic has put the whole student transition scenario into a new unseen perspective. The disruptive decisions took by

authorities only managed to add an extra layer on top of the traditional one. Online education for the students enrolled into the 2020/2021 university year was a bigger challenge than for any others. This generation has finished high school in a traditional face to face system and instead of having to deal only with the ordinary challenges of transitioning to face to face college, they've been forced to add to it the novelty and uncertainty of the online education during pandemic.

Online education and interdiction of physical interaction in public spaces with peers has managed to create an isolated individual. Cases of depressive symptoms started to surface for students (Liu et al., 2022; Monte et al., 2022; Ray et al., 2021;) and teachers began to struggle with stress and anxiety (Boneh, et al., 2021; Oducado et al., 2021; Pressley et al., 2021). Sitting in front of a screen meant less physical activity which in turn has been correlated with higher depression rates (Coughenour et al., 2021). Networking and physical interaction have a great impact upon individual's happiness (Lee et al., 2020) and closing the campuses meant for most of the students returning home, which in turn created anxiety symptoms (Conrad et al., 2021). Family support during the online school was perceived different by students, mainly in accordance with the socio-educational norms of the country in which they were residing. If for students from China family presence was a support factor in the online education scenario (Gao et al., 2021), for those from the United States of America was a real challenge, creating self-reported decrease in mental health (Hall & Zygmunt, 2021).

3. Research methodology

The necessary data to conduct this research derives from a more comprehensive data base, created after a laborious demarche, in finding solutions to deliver the educational act into the online environment during pandemic times. Restrictions imposed by the pandemic regarding academic physical attendance to courses opened the path to novelty approaches as no general institutional approved consensus existed. To offer a better understanding of our research we consider that a brief contextual description of the method is necessary.

Our especially developed method aimed to transpose, without the need of acquiring additional or special equipment, into the given online environment, Microsoft Teams platform, the main characteristics of a physical education course: an initial evaluation, an

intervention exercise program with a monitoring period and a final evaluation. Both initial and final evaluations used self-reported anthropometrical measurements and online synchronous videoconferencing tests. They targeted the same parameters of the human fitness state: mobility, muscular endurance and strength and cardiovascular endurance. Demographical, psycho-social and health parameters were added for the initial, as well for the final evaluation in form of questionnaires. The intervention proposed exercise program was aimed at the same fitness parameters mentioned above and the daily monitoring component was done on four parameters: frequency, intensity, time and type (F.I.T.T.).

The method was applied between 9th of November 2020 and 9th of February 2021 to a total of 155 students from the Faculty of Business of the Babes-Bolyai University from Cluj-Napoca, Romania, translating into a monitoring period of 93 days. Weekly updates and advice were offered during synchronous meetings held accordingly to their time schedule, as well as asynchronous daily support with the help of the chat option.

Although many students had one form or another of evaluation done at some point, only 72 had all their initial and final ones. Those and their answers to the question: "Thinking about the way you carried out your professional/educational/family/social activities in the current pandemic situation generated by the COVID-19, please tell me what you consider that are the most worthy to mention positive and negative aspects", formed the data base for our current demarche.

The aim of the present research was to identify how pandemic influenced aspects of our college freshman's life and if they differentiated between positive and negative. The research method used was text mining and data processing, to respond the problematic in question, was done with the help of IBM SPSS Text Analytics for Surveys software, which is designed to process large quantities of unstructured qualitative data and extract concepts out

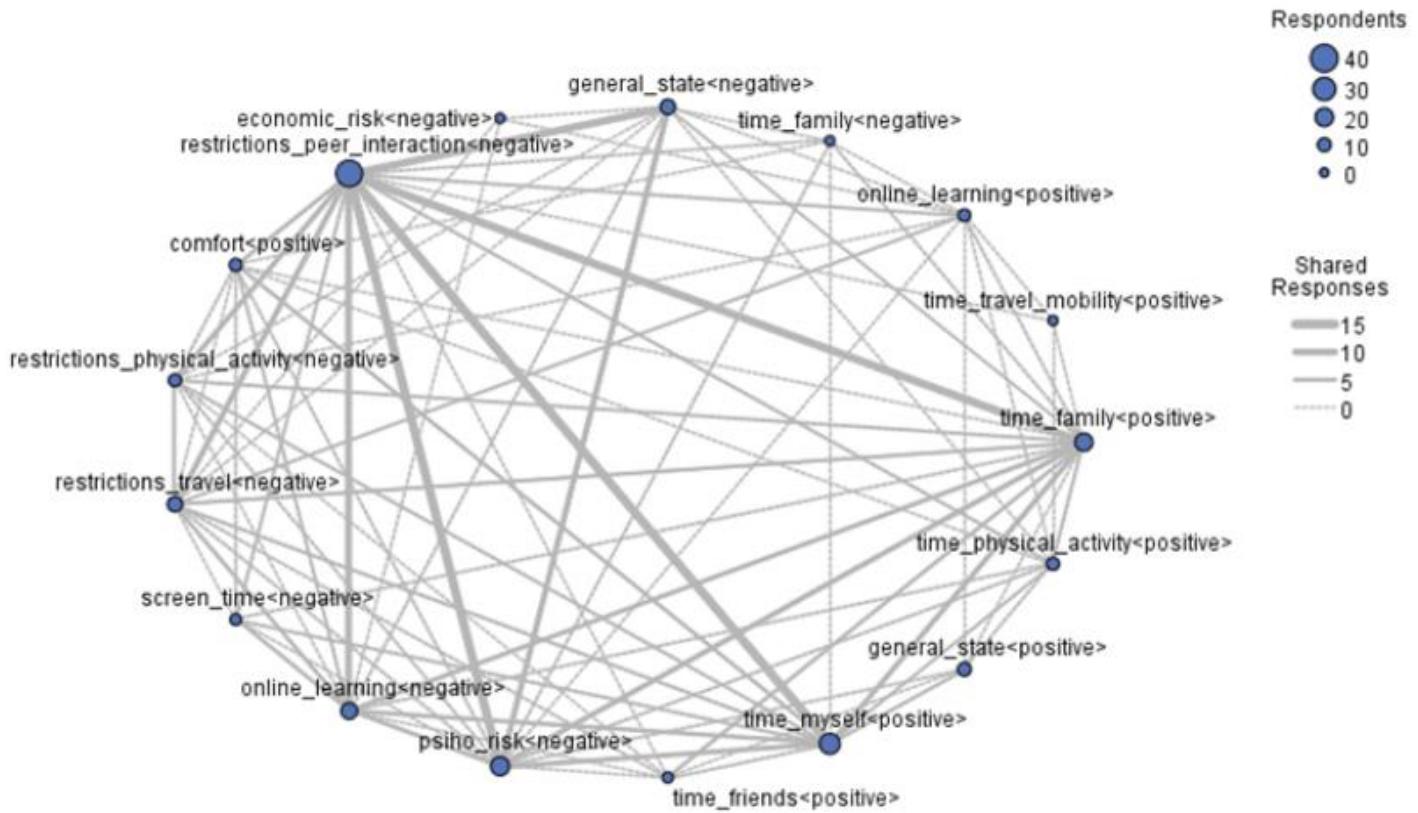
of it. This data mining software not only makes a simple attribution to a certain category based on word recognition, but it also extracts feelings based on elaborate algorithms.

4. Results

Given the nature of the question the software struggled to extract significant concepts besides "positive" and "negative" as most of the answers were very punctual and already included these two, for example: "Negative: lack of positive emotions and feelings, I spent a lot of time at home, for a while I felt depressed, apathetic, anxious, due to lack of communication and interaction with other people, etc. Positive: I became more self-aware." Even so, concepts like "time," "family", "friends", "problem", "bad" and a couple of others surfaced after the extraction. Going further with the analysis, we executed an automatic category building to establish what kind of reports took place between them. Neither this process was consistent enough to provide out of the box results because it only categorized 38 answers and offered only a few categories, like "online<negative>", "relationships<positive>", "sport<negative>, in relation with the amount of text processed.

After this drawback we decided that a better approach would be to create categories based on the conceptual key words identified by the software and to manually assign the concepts from each answer to them. At the end of this demarche, we built 18 categories as it follows:
"time_travel_mobility<positive>","time_physical_activity<positive>","time_myself<positive>","time_friends<positive>","time_family<positive>","time_family<negative>","screen_time<negative>","restriction_travel<negative>","restriction_physical_activity<negative>","restriction_peer_interaction<negative>","psiho_risk<negative>","online_learning<negative>","online_learning<positive>","comfort<positive>","economic_risk<negative>","general_state<positive>","general_state<negative>" and the unconfirmed answers category which was excluded from the analysis. The figure bellow portrays our model and connections between categories in a graphical manner.

Figure 1. Model built upon respondents' answers



Dots represent the number of respondents belonging to that category and the bigger the dot, the larger the number. Lines represent a connection between two categories and the thicker the line, the larger the number of respondents belonging to both categories.

At a first glance we can observe that certain categories stand out, the most prominent ones being “restriction_peer_interaction<negative>”, concept that can be found in the answers of 38 respondents, “time_myself<positive>”, within 25 answers, “psiho_risk<negative>”, within 20 answers, “time_family<positive>”, within 19 answers, “online_learning<negative>”, within 16 answers, “restriction_travel<negative>” within 13 answers and “general_state<negative>” within 13 answers.

The most significant connections were established between some of the already mentioned categories, 17 out of 38 respondents which belonged to the “restriction_peer_interaction<negative>” category could also be found in the “psiho_risk<negative>” category, 15 out of 38 also belonged to the “time_myself<positive>” category, 13 out of 38 also belonged to the “time_family<positive>” category, 12 out of 38 also belonged to the “general_state<negative>” category, 11 out of 38 also belonged to the “online_learning<negative>” category.

It is also noteworthy to mention the triangle between the categories “restriction peer interaction<negative>”-

“psiho_risk<negative>”-“general_state<negative>” because they share a significant number of answers.

5. Discussions

The analysis offered us the opportunity to have a deeper understanding of discontents and contents surfaced in the life of our respondents due to the pandemic.

As probably expected, the worst aspect was lack of social interaction. Humans are a social species, we need to physically interact to establish durable relations, because our behavior is based on senses, which cannot be replicated in the online environment. More so, learning can be done only when situations become memorable by involving feelings, which are hard to induce in a physical context, let alone in a virtual scenario. Our respondents were at the age when the need to physically interact socially and travel was at its peak, the results speaking for themselves. Although, presumably, the outcomes of this pandemic would have been worse if the events wouldn't have taken place in this era when communication is at our fingertips.

Times of isolation could be good opportunities for introspection, return to inner self and reconsideration of relationships. Some of our respondents regarded the pandemic as an opportunity to self-discovery, otherwise, in normal cohabiting conditions, being hard to achieve. Family support remains important regardless age and our results show that. The fact that a high number of respondents which stated in their

answers that their social life was affected by pandemic also identified time with family and self in a positive manner expresses their need for balance to maintain their inner equilibrium.

Mental health was, is and will always be a hot topic regardless of contextual events, as it sits at the very core of us, but the prolonged isolation state has stretched its manifestation intervals for some of us. Insomnia, stress, anxiety or depression are only some of the mental health concerns which our respondents reported that they've experienced. Life threatening events have an undesirable effect upon our mind and even more so when we are faced with an unknown one. Coping with them becomes essential in these cases, but the used mechanisms aren't always without repercussions and that's why support becomes essential.

6. Conclusions

The present research approach managed, from our point of view, to respond to the main question and thus we can declare ourselves satisfied with the results. Although the data processing method didn't offer automated comprehensible results, it provided the flexibility for further human intervention and favored a straightforward output for easy interpretation and presentation.

Our respondents faced numerous negative aspects in this period of their lives due to the pandemic, but the worst of them referred to social, psychological and educational aspects. The positive side of this period from the perspective of our respondents was time, which was used to consolidate connections with family, friends and self.

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References

- Abeele, M.V., Roe, K. (2011). New Life, Old Friends: A Cross-cultural Comparison of the Use of Communication Technologies in the Social Life of College Freshmen. *YOUNG*. Vol. 19, no. 2, pp. 219–240, doi:10.1177/110330881001900205
- Allen, S. F., & Stoltzenberg, C. D. (1995). Psychological separation of older adolescents and young adults from their parents: An investigation of gender differences. *Journal of Counseling & Development*, vol. 73, no. 5, pp. 542–546. Doi: <https://doi.org/10.1002/j.1556-6676.1995.tb01791.x>
- Baum, C.L. (2017). The effects of college on weight: examining the “freshman 15” myth and other effects of college over the life cycle, *Demography*, vol. 54, no. 1, pp. 311–336, doi: 10.1007/s13524-016-0530-6.
- Bernier, A., Larose, S., Whipple, N. (2005). Leaving home for college: A potentially stressful event for adolescents with preoccupied attachment patterns, *Attachment & Human Development*, vol. 7, no. 2, pp. 171–185, doi: <https://doi.org/10.1080/14616730500147565>
- Boneh, M.Z., Feniger-Schaal, R., Bivas, T.A., Danial-Saad, A. (2021). Teachers under stress during the COVID-19: cultural differences, *Teachers and Teaching*, doi: 10.1080/13540602.2021.2017275.
- Bruffaerts, R., Mortier, P., Kiekens, G., Auerbach, R.P., Cuijpers, P., Demeyttenaere, K., Kessler, R.C. (2018). Mental health problems in college freshmen: Prevalence and academic functioning, *Journal of Affective Disorders*, Vol. 225, pp. 97–103, doi: 10.1016/j.jad.2017.07.044.
- Conrad, R.C., Koire, A., Pinder-Amaker, S., Liu, C.H. (2021). College student mental health risks during the COVID-19 pandemic: Implications of campus relocation, *Journal of Psychiatric Research*, vol. 136, pp. 117–126, doi: 10.1016/j.jpsychires.2021.01.054
- Cougenour, C., Gakh, M., Pharr, J.R., Bungum, T., Jalene, S. (2021). Changes in depression and physical activity among college students on a diverse campus after a COVID-19 stay-at-home order, *Journal of Community Health*, vol. 46, no. 4, pp. 758–766, doi: <http://dx.doi.org/10.1007/s10900-020-00918-5>.
- Downes, L. (2015). Physical activity and dietary habits of college students. *The Journal for Nurse Practitioners*, vol. 11, no. 2, pp. 192–198, doi: <https://doi.org/10.1016/j.nurpra.2014.11.015>
- English, T., Davis, J., Wei, M., Gross, J.J. (2017). Homesickness and adjustment across the first year of college: A longitudinal study, *Emotion*, vol. 17, no. 1, doi: 10.1037/emo0000235.
- Fei, W., Geng, Y., Wang, S., Ma, Q., Peng, X., Zhang, M., Zhang, T. (2021). Association between parental control and subclinical depressive symptoms in a sample of college freshmen: Roles of empathy and gender, *Journal of Affective Disorders*, pp. 301–308, doi: 10.1016/j.jad.2021.03.005
- Gao, H., Ou, Y., Zhang, Z., Ni, M., Zhou, X., Liao, L. (2021). The Relationship Between Family Support and e-Learning Engagement in College Students: The Mediating Role of e-Learning Normative Consciousness and Behaviors and Self-Efficacy. *Frontiers in Psychology*. vol. 4, no. 12, doi: 10.3389/fpsyg.2021.573779
- Hall, S.S., Zygmunt, E. (2021). "I Hate It Here": Mental Health Changes of College Students Living with Parents During the COVID-19 Quarantine, *Emerging Adulthood*, doi: <https://doi.org/10.1177/21676968211000494>
- LaBrie, J.W., Pedersen, E.R., Lamb, T.F., Quinlan, T. (2007). A campus-based motivational enhancement group intervention reduces problematic drinking in freshmen male college students, *Addictive Behaviors*, vol. 32, no. 5, pp. 889–901, doi: <https://doi.org/10.1016/j.addbeh.2006.06.030>
- Lee, S., Lee, S.Y., Jung, J. (2021). South Korean college freshmen students' perceptions of happiness during the COVID-19 pandemic in 2020, *Social Behavior and Personality: An International Journal*, vol. 49, no. 10, pp. 1–13, doi: <https://doi.org/10.2224/sbp.10772>
- Lenz, B.K. (2004). Tobacco, depression, and lifestyle choices in the pivotal early college years, *Journal of American College Health*, vol. 52, no. 5, pp. 213–220, doi: 10.3200/JACH.52.5.213-220
- Levens, S.M., Elrahal, F., Sagui, S.J. (2016). The role of family support and perceived stress reactivity in predicting depression in college freshman. *Journal of Social and Clinical Psychology*, vol. 35, no. 4, pp. 342–355, doi: <https://doi.org/10.1521/jscp.2016.35.4.342>
- Liu, D., Li, B., Hao, F., Liu, N., Su, Z., Zhu, J., Tang, Y., Wang, B., Wang, J., Liu, Y. (2022). The prevalence and incidence of major depressive disorder in 8079 Chinese university freshmen before and during COVID-19. *Journal of Affective Disorders*. doi: 10.1016/j.jad.2022.03.022
- Llamas, J.D., Morgan, C.M. (2012). The importance of familia for Latina/o college students: examining the role of familial support in intragroup marginalization. *Cultural Diversity & Ethnic Minority Psychology*. Vol. 18, no. 4, pp. 395–403, doi: 10.1037/a0029756
- McDaniel, M.A., Einstein, G.O., Een, E. (2021). Training College Students to Use Learning Strategies: A Framework and Pilot Course. *Psychology Learning & Teaching*. Vol. 20, no. 3, pp. 364–382, doi: 10.1177/1475725721989489
- Mihalopoulos, N.L., Auinger, P., Klein, J.D. (2008). The Freshman 15: is it real?, *Journal of American College Health*, vol. 56, no. 5, pp. 531–534, doi: 10.3200/JACH.56.5.531-534
- Monte, V., Ang, J.Y., Tsai, W. (2022). Negative COVID-19 impacts and depressive symptoms over time among first-year college students. *Journal of American College*

- Health. vol. 3, pp. 1–10. doi: 10.1080/07448481.2022.2032085
- Moreira, G.J.F., Telzer, E.H. (2015). Changes in family cohesion and links to depression during the college transition, *Journal of Adolescence*, vol. 43, pp. 72–82. doi: 10.1016/j.adolescence.2015.05.012
- Oducado, R.M., Rabacal, J., Moralista, R., Tamdang, K. (2021). Perceived stress due to COVID-19 pandemic among employed professional teachers, *International Journal of Educational Research and Innovation*, vol. 15, pp. 305–316, doi: 10.46661/ijeri.5284
- Pressley, T., Ha, C., Learn, E. (2021). Teacher stress and anxiety during COVID-19: An empirical study, *School Psychology*, vol. 36, no. 5, doi: 10.1037/spq0000468
- Ray, E.C., Perko, A., Oehme, K., Arpan, L., Clark, J., Bradley, L. (2021). Freshmen anxiety and COVID-19: Practical implications from an online intervention for supporting students affected by health inequities, *Journal of American College Health*, pp. 1–10, doi: 10.1080/07448481.2021.1965610