



## The Association Between Demographic Characteristics and Online Learning Satisfaction

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### ABSTRACT

Online learning platforms have been popular since the spread of COVID-19 worldwide. Most universities in Indonesia switched from face-to-face teaching and academic activities to online engagements during the peak of COVID-19 cases. Previous studies found that dissatisfaction was a concern during online learning. This research investigated the association between demographic characteristics and online learning satisfaction. This study employed a cross-sectional and quantitative approach. The researchers distributed the google form questionnaires via several lecturer's social media groups of universities in Central Java Province and gathered a total of 1386 respondents. The descriptive cross-tabulation and chi-square tests resulted in respondents' profiles of college students who were <24 years old (88.5%), not married (89.8%), had no part-time job besides studying (86.5%), and attended bachelor's degrees in various fields (70.5%). Fifty percent of the respondents expressed that they have some limitations in engaging with online learning, and 30 percent were satisfied with their online learning. Age (p-value=0.0001), marital status (p-value=0.0001) and engagement in part-time job (p-value=0.0001) were significantly associated with the online learning satisfaction. In conclusion, this study confirms other studies that online learning platforms are associated with constraints and satisfaction issues.

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### INTRODUCTION

The emergence of coronavirus disease or COVID-19 has changed educational technology and many aspects of life. The online platforms took over conventional face-to-face learning and required the infrastructures of the internet (M I Mustofa et al., 2019) and the skill to work on many online systems. Availability of data packages and adequate devices are hand in hand to succeed the online learning (Mokhamad Iklil Mustofa et al., 2019). Distance learning and online learning require internet media that helps lecturers to interact with students via online (Allen & Seaman, 2015) platforms. Various parties voiced that lecturers and students faced some circumstances, such as device constraints, technological challenges, and internet availability, who inevitably had to be ready to face the current demands and situation (Tirziu & Vrabie, 2015). The difference between the face-to-face and distance learning dynamics affects the quality of student learning (Karwati, 2014). As of February 4, 2021, more than one million people confirmed positive COVID-19, with 31,000 dead records. The high number of people exposed to Covid-19 is a concern for all parties, including the various ministries in

charge of universities in Indonesia. Various tertiary institutions in the red, orange, and yellow zones have not been allowed to conduct face-to-face lectures.

Successful implementation of e-learning is influenced by concern for technology, motivation, and changes in students' behavior (Bhuasiri et al., 2012). The success in implementing e-learning for students correlates to the demographic characteristics of students. The bachelor's, master's, and doctorate students have different characteristics that can be seen based on age, marital status, and engagement with the job side. Different student characteristics can lead to different e-learning or online learning satisfaction levels. Students are not satisfied with online learning because they are unfamiliar with distance learning. Factors that influence distance learning satisfaction include technology, educational content, motivation and attitudes, student readiness level, conformity of information with needs, learning design, quality of information, and experience (Navimipour & Zareie, 2015), (Yilmaz, 2017), (Pereira et al., 2015), (Deshwal et al., 2017).

Student satisfaction in following distance learning is important for learning evaluation. If students get online learning satisfaction, it will affect motivation and learning outcomes (Wang et al., 2019), perceived value, and intensity of sustainability (Nugroho et al., 2019). In addition, online learning assessments determine student satisfaction during the learning process. Perceived dissatisfaction is influenced by lecturers, students, support staff, institutional regulations, national policymakers, national rules and regulations, and education experts. The lecturers, students, and technology play important roles in online learning. Technology relates to the platform used as an intermediary for implementing online learning, such as e-learning which can be accessed through personal devices, computers, and gadgets. Information and communication technology skills are crucial in distance learning during the Covid-19 pandemic (Latip, 2020).

On the other hand, several factors that influence distance learning satisfaction can also cause difficulties for students. Difficulties in the online lecture process can cause stress to students. Stress is a dynamic condition of the body in dealing with various psychological, physical, biological, environmental, or social stressors that can affect the nervous and neuroendocrine systems, generating an immune system response. An expert has written that stress is an individual condition influenced by the environment. Stress conditions occur due to the failure to balance between the pressures faced by an individual and the ability to deal with these pressures. If the cell or organ can handle the stressor properly and is still in a state of balance, it is called eustress, whereas if life cannot handle it in the transaction process, the cell or organ will experience distress (Setyawan, 2003), (Duman et al., 2001). Under normal circumstances, stress hormones are released in small amounts throughout the day, but when faced with stress, the levels of these hormones increase dramatically (Stocker, 2012).

The online learning model is still an alternative to a new direct learning approach that leads to navigating some studies toward its effectiveness (Murphy, 2020) and audiences' satisfaction. Research related to online learning certainly still needs development, especially in expanding the research area. This study investigated the association between demographic characteristic variables and online learning satisfaction. This research could predict the effectiveness of implementing school-based learning [17].

## **METHODOLOGY**

The researchers distributed Google Form Questionnaires via several lecturer's social media groups of universities in Central Java Province and gathered 1,386 respondents. After two weeks of distributing Google Form Questionnaires, the responses were collected and generated in an excel spreadsheet. Subsequently, data cleaning, descriptive cross-tabulation, and chi-square test were performed. The  $\alpha=5\%$  and  $CI=95\%$  were set to determine the association between the demographic characteristics of the respondents and their online learning satisfaction.

## RESULTS AND DISCUSSION

The results are presented according to the students' characteristics and the various aspects of online course sessions (See Tables 1 to 4).

**Table 1.** Frequency Distribution of Student Characteristics (n=1386)

Characteristics of Respondents		Frequency	Percentage
Age	<24 years	1227	88.5
	24 years old.	159	11.5
Marital Status	Yes	142	10.2
	No	1244	89.8
Engagement with a side job	Yes	187	13.5
	No	1199	86.5
University	State University	930	67.1
	Private University	456	32.9
Education	Bachelor	977	70.5
	Masters	77	5.6
	Doctoral	25	1.8
	Other	307	22.2

Table 1 shows student characteristics by age, marital status, engagement with job side, and educational level. Most of the respondents were <24 years old (88.5%), unmarried (89.8%), had no side job (86.5%), and currently carrying out bachelor's education (70, 5%). These characteristics distinguish student satisfaction in online learning. According to a previous study, online learning activities a (Yuhdi, Achmad; Amalia, 2018)re a state of learning that uses networks, is connected to a system, and is controlled by the internet connection.

**Table 2.** Frequency Distribution of Online Learning Satisfaction among Students

Statement	Answer				
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
	<i>f (%)</i>	<i>f (%)</i>	<i>f (%)</i>	<i>f (%)</i>	<i>f (%)</i>
1. The online lecture model is boring	128 (9.2)	235 (9.2)	619 (44.7)	259 (18.7)	145 (10.5)
2. Online lectures meet the required expected learning outcomes	57 (4.1)	194 (14.0)	48.5 (35.0)	452 (32.6)	198 (14.3)
3. Practical lecture material is delivered via online video	180 (13.0)	251 (18.1)	389 (28.1)	305 (22.0)	261 (18.8)

The online learning method is the safest solution to continue the learning process during the pandemic COVID-19 to implement physical distancing. Moreover, online learning utilizes technology as an intermediary medium for teaching and learning without face-to-face meetings. The beauty of online learning is its flexibility in terms of time (Thorne, 2003) and place since the teaching involves technology and friendly gadget [19]. The teachers' ability to prepare stimulating learning materials that are accessible could be one of the solutions to dealing with some hindrances, such as lack of interest among audiences (Efriana, 2021). The implementation of online learning has been adjusted to the abilities of teachers and audiences to be friendly users. The success in online learning indicates that

the online learning delivery would enhance student satisfaction. Convenient space for joining online learning, internet speed, and visual attractiveness in delivering learning material are important factors in increasing student satisfaction in online learning (Cidral et al., 2018).

Table 2 showed "The online lecture delivery is boring" was reported by 18.4% of respondents, and nearly 47% do not agree with the statement that "online lectures meet the required expected learning outcomes." Meanwhile, the statement "laboratory or simulation topic material could be delivered via online video" responded by 40.8% of respondents. Online learning is implemented considering the material should fulfill the expected learning outcomes. Among first-year students, offline learning is more needed to instill the transition phase of high school to college learning. However, the government issued the online learning policy to control the spread of COVID-19. Hence, the authority must make a tradeoff between safety over competency.

**Table 3.** Distribution of Frequency of Constraints during Online Lecture

Constraints during online lectures	Yes	No
	f (%)	f (%)
1. Access to the Internet	1,103 (79.6)	283 (20.4)
2. Provision of the data package for internet connection	1,141 (82.3)	245 (17.7)
3. Discussion with the lecturer	998 (72.0)	388 (28.0)
4. Working space environment to study	751 (54.2)	635 (45.8)
5. Understanding of the material/lecture materials delivered by the lecturer	1,111 (80.2)	275 (19.8)

The obstacles experienced by students were internet access, data package cost, discussions with lecturers, working space environments to study, and understanding of course materials (see Table 3). The problem with accessing the internet was expressed by 79.6% of respondents, providing data package for the internet access was voiced out by 82.3% of the respondents, problems discussing with the lecturer was 72%, problems with places or environment for learning (54.2%), and problems understanding the lecture material presented by the lecturer (80.2%).

In general, the obstacles experienced are fundamental, including obstacles in terms of internet networks and services provided by lecturers to students. Internet network or access constraints may be related to the respondent's location. Urban areas have many internet service providers with sufficient internet network capabilities to support the online learning process. However, in rural areas, there are very few choices of internet service providers. Of those available, the internet network quality is inadequate, so it does not support online learning (Hutauruk & Sidabutar, 2020).

Difficulties in the online lecture process can cause stress to students. The online lecture material is not easily understood. The lecturer provides modules accessible in the learning system during the online lectures. Without an interactive delivery, the students would have difficulty digesting the lecture. Some teaching delivery could combine two or more teaching methods, e.g., storytelling, interactive discussion, problem-solving practice using case studies, and video in the learning process. However, the video needs more data packages. Therefore, students would be cautious when many videos are required to work on the learning process.

In some cases, both sides, the lecturers and students, expressed stress over online learning. Stress is a dynamic condition of the body in dealing with various psychological, physical, biological, environmental, or social stressors that can affect the nervous and neuroendocrine systems, generating an immune system response. Lazarus and Folkman explain stress as an individual condition influenced by the environment. Stress conditions occur because of an imbalance between the pressures faced by individuals and the ability to deal with these pressures. Individuals need sufficient energy to deal with stressful situations so as not to interfere with their well-being (Evanjeli, 2012).

Stress is a body reaction that determines the continuity of life. Stress occurs not only at the organism level but also at the organ and cellular levels. Stress can indicate a new equilibrium or an adaptation phenomenon. If the cell or organ can handle the stressor properly and is still in a state of balance, it is called eustress, whereas if life cannot handle it in the transaction process, the cell or organ will experience distress (Setyawan, 2003), (Duman et al., 2001). Additionally, the level of online learning satisfaction is influenced by student characteristics which can influence the satisfaction and constraints experienced during the implementation of online learning. The following is a table of analyses of the relationship between student characteristics and online learning satisfaction.

**Table 4.** Relationship between Student Characteristics and Learning Satisfaction

Variable Demographic Characteristics	Learning Satisfaction		Total	p*
	Satisfied	Dissatisfied		
	f (%)	f (%)	f (%)	
<b>1. Age</b>				
<24 years	535 (43.6)	692 (56.4)	1,227 (100.0)	0.0001
24 years old.	114 (71.7)	45 (28.3)	159 (100.0)	
<b>2. Marital Status</b>				
Married	99 (69.7)	43 (30.3)	142 (100.0)	0.0001
Not married	550 (44.2)	694 (55.8)	1,224 (100.0)	
<b>3. Engagement in a part-time job</b>				
Yes	110 (58.8)	77 (41.2)	187 (100.0)	0.0001
No	539 (45.0)	660 (55.0)	1,199 (100.0)	

$\alpha = 0.05$  (two sided) \* Chi-square test

Table 4 showed that age (p-value=0.0001), marital status (p-value=0.0001) and engagement in part-time job (p-value=0.0001) were significantly associated with the online learning satisfaction.

Education is all learning experiences in all environments and throughout life. Education is all life situations that affect individual growth [24]. Learning underlies why students must continue to carry out education even under any circumstances of the pandemic. Online learning is the most practical choice to prevent learning loss. Although online learning has become a fashion worldwide and is more flexible in terms of time and place, satisfaction (She et al., 2021) remains an issue. It is explained that academic self-efficacy and student commitment also affect learning satisfaction.

Learning satisfaction needs to be understood to determine the success of the implementation of online learning in meeting student needs in achieving learning objectives under the expected level of achievement (Allen & Seaman, 2015).

## CONCLUSION

The current COVID-19 pandemic has caused changes in the implementation of online learning, commonly referred to as distance lectures. Students have experienced problems in understanding the lecture material presented by the lecturer. However, student satisfaction in online learning is crucial to getting attention.

## ACKNOWLEDGMENTS

The institution, lecturers, and students need to understand that they have an equal give and take of responsibility in dealing with the circumstances in online learning.

## CONFLICTS OF INTEREST

As per an online survey, the researchers have some limitations in ensuring the respondents understand and honestly answer the questions. Moreover, the questionnaires have been tested for their content validity only, while their statistical reliabilities have not been tested.

## REFERENCES

- Allen, I. E., & Seaman, J. (2015). *Grade Level: Tracking Online Education In The United State*. Online Learning Consortium.
- Bhuasiri, W., Xaymoungkhoun, O., Zo, H., Rho, J. J., & Ciganek, A. P. (2012). *Critical Succes Factors For E Learning In Developing Countries: A Comparative Analysis Between ICT Experts And Faculty*. Computer & edukation.
- Cidral, W. A., Oliveira, T., Di Felice, M., & Aparicio, M. (2018). E-Learning Success Determinants : Brazilian Empirical Study. *Computers & Education*, 122, 273 - 290. <https://doi.org/10.1016/j.compedu.2017.12.001>
- Deshwal, P., Trivedi, A., & Himanshi, H. L. N. (2017). Online Learning Experience Scale Validation And Its Impact On Learners' Satisfaction. *Procedia Computer Science*, 112, 2455-2462. <https://doi.org/10.1016/j.procs.2017.08.178>
- Duman, R. S., J, M., & Nakagawa, S. (2001). Regulation Of Adult Neurogenesis By Psychotropic Drugs And Stresss. *J Pharmacology and Experimental Therapeutics*, 299, 401-107.
- Efriana, L. (2021). Problems of Online Learning during Covid-19 Pandemic in EFL Classroom and the Solution. *JELITA: Journal of English Language Teaching and Literatur*, 2(1), 38-47.
- Evanjeli, A. L. (2012). *Hubungan Antara Stres, Somatisasi Dan Kebahagiaan* (L. Peneltian (ed.)). Fakultas Psikologi Universitas Gadjah Mada.
- Hutauruk, agusmanto, & Sidabutar, R. (2020). Kendala Pembelajaran Daring Selama Masa Pandemi Di Kalangan Mahasiswa Pendidikan Matematika : Kajian Kualitatif Deskriptif. *Jurnal of Mathematics Education and Applied*, 02(01), 45 - 51.
- Karwati, E. (2014). Pengaruh Pembelajaran Elektronik (E-Learning) Terhadap Mutu Belajar Mahasiswa. *Jurnal Penelitian Komunikasi*, 17(1), 41-54.
- Latip, A. (2020). Peran Literasi Teknologi Informasi Dan Komunikasi Pada Pembelajaran Jarak Jauh Di Masa Pandemi Covid-19. *EduTeach: Jurnal Edukasi Dan Teknologi Pembelajaran*, 1(2), 108-116. <https://doi.org/10.37859/eduteach.v1i2.1956>
- Mudyahardjo, R. (2001). *Sebuah Studi Awal Tentang Dasar-Dasar Pendidikan Pada Umumnya Dan Pendidikan Di Indonesia*. Raja Grafindo Persada.
- Murphy, M. P. A. (2020). COVID-19 And Emergency E - Learning : Consequences Of The Securitization Of Higher Education For Post-Pandemic Pedagogy. *Contemporary Security Policy*, 1(3), 1 - 14. <https://doi.org/10.1080/13523260.2020.1761749>
- Mustofa, M I, Chodzirin, M., & Sayekti, L. (2019). Formulasi Model Perkuliahan Daring Sebagai Upaya Menekan Disparitas Kualitas Perguruan Tinggi. *Walisongo J. Inf. Technol*, 1(2), 151.
- Mustofa, Mokhamad Ikilil, Chodzirin, M., Sayekti, L., & Fauzan, R. (2019). Formulasi model perkuliahan daring sebagai upaya menekan disparitas kualitas perguruan tinggi. *Walisongo Journal of Information Technology*, 1(2), 151-160.
- Navimipour, N. J., & Zareie, B. (2015). A Model For Assessing The Impact Of E-Learning Systems On Employees' Satisfaction. *Computers in Human Behavior*, 53, 475-485. <https://doi.org/10.1016/j.chb.2015.07.026>
- Nugroho, M. A., Setyorini, D., & Novitasari, B. T. (2019). The Role Of Satisfaction On Perceived Value And E-Learning Usage Continuity Relationship. *Procedia Computer Science*, 161, 82-89. <https://doi.org/10.1016/j.procs.2019.11.102>
- Pereira, F. A. d. M., Ramos, A. S. M., Gouvêa, M. A., & Costa, M. F. (2015). Satisfaction And Continuous

- Use Intention Of E-Learning Service In Brazilian Public Organizations. *Computers in Human Behavior*, 46, 139-148. <https://doi.org/10.1016/j.chb.2015.01.016>
- Setyawan, S. (2003). *Mekanisme Cooping*. Lab Ilmu Faal Fakultas Kedokteran UNAIR.
- She, L., Ma, L., Jan, A., Sharif Nia, H., & Rahmatpour, P. (2021). Online Learning Satisfaction During COVID-19 Pandemic Among Chinese University Students: The Serial Mediation Model. *Frontiers in Psychology*, 12(October). <https://doi.org/10.3389/fpsyg.2021.743936>
- Stocker, S. (2012). Studies Link Stress and Drug Addiction. *NIDA Research Finding*, 14, 1-4.
- Thorne, K. (2003). *Blended Learning, How to Integrate Online and Traditional Learning*. Kogan Page.
- Tirziu, A. M., & Vrabie, C. (2015). Education 2.0: E-learning methods. *ProcediaSocial and Behavioral Sciences*, 186, 376-380.
- Wang, C., Hsu, H.-C. K., Bonem, E. M., Moss, J. D., Yu, S., Nelson, D. B., & Levesque-Bristol, C. (2019). Need satisfaction and need dissatisfaction: A comparative study of online and face-to-face learning contexts. *Computers in Human Behavior*, 95, 114-125. <https://doi.org/10.1016/j.chb.2019.01.034>
- Yilmaz, R. (2017). Exploring the role of e-learning readiness on student satisfaction and motivation in flipped classroom. *Computers in Human Behavior*, 70, 251-260. <https://doi.org/10.1016/j.chb.2016.12.085>
- Yuhdi, Achmad; Amalia, N. (2018). *Desain Media Pembelajaran Berbasis Daring Memanfaatkan PortalSchoology pada Pembelajaran Apresiasi Sastra*. 7(1). <https://doi.org/10.24114/bss.v7i1.9320>