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Do Educational Inequalities Exist in Online Learning amidst Covid-19 Pandemic? Experiences of Higher Education Students in West Sulawesi

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ABSTRACT

Several studies prove that the visible factors of educational inequalities are socioeconomic status (SES) disparities in society. Students from rural areas and poor families face difficulties accessing high-quality Information and Communication Technology for online learning. The digital divide in urban and rural areas has become more evident during the covid-19 pandemic. The purpose of this study is to investigate whether educational inequalities exist in the online learning experiences of students in West Sulawesi amidst Covid-19 pandemic. Quantitative research was applied in this study using random sampling from 381 students in West Sulawesi. Furthermore, the data were assessed with a one-way ANOVA test. The descriptive statistic of the population reveals that most higher education students in West Sulawesi come from very low to low SES families. The test of difference confirms that students who live in rural, suburban, and urban areas showed a different level of technology access where students from rural areas have lower access to technology for online learning. However, the result evinces no difference in accessing technology for online learning across the socioeconomic status levels. For further investigation, the researcher recommends doing in-depth exploration specifically in the population to find an accurate answer of why educational inequalities do not exist across SES level.

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1. INTRODUCTION

The outbreak of the novel coronavirus (Covid-19) which is firstly found in Wuhan, China in December 2019 has changed human history. The World Health Organization has pronounced the virus spread as a pandemic that is threatening human life (Cucinotta & Vanelli, 2020). The pandemic has brought a lot of impacts on human activities both in the economic, political, health, and educational sectors. Governments of each country have imposed lockdown regulations to impede the spread of the Covid-19. The first case confirmed in Indonesia was on March 2, 2021, and the number of cases has grown bigger (Utomo, 2020). As a response to the widespread diseases, the government of Indonesia implements

large-scale social restrictions (Sutrisno, 2020). Social restriction and physical distancing regulations have influenced the educational sector authority. The Indonesian government also follows the world movement to close educational institutions.

The Ministry of Education and Culture (MOEC) has instigated online/remote learning to prevent Covid-19 transmission (Abida et al., 2020). All schools and higher education are encouraged to shift from conventional and traditional teaching and learning to online learning. This massive change has steered the national curriculum to rely on distance learning. Consequently, all educational institutions are urged to adapt to digitalization, such as online lectures, teaching and learning with various educational applications, electronic resources, virtual classrooms etc. (Qazi et al., 2020). This digital revolution has challenged the higher education system in Indonesia, especially in underdeveloped provinces.

Even though online learning has been applied before the pandemic, especially in advanced countries that have acknowledged blended learning, underdeveloped and developing countries such as Indonesia might face it differently. Undeniably, fast-growing technology has improved human activities, including education. However, in a developing country, access to the internet has yet to be ubiquitous. Many students face difficulties accessing good quality internet, primarily those from rural areas and poor families (Cai et al., 2020). According to Zhang et al. (2015), the income and family background gap is the potential cause of inequality in rural and urban areas. Inequality in accessing technology called 'digital divide' also becomes an obvious problem that worsens educational inequalities (Belay, 2020).

Some experts argue that online teaching and learning may exacerbate the existing educational inequalities (Brown et al., 2020; Clinton, 2020). During the Covid-19 pandemic, schools and universities were closed. As a response to this, online modalities are adopted to ensure the continuity of education. Learning management systems have transformed to digitalization which solely depends on technological use for effective teaching and learning. Meanwhile, for disadvantaged students, the existing technology might not help them to cope with their academic issues. This regulation foreshowed the experiences of how students from financially and socially disadvantaged backgrounds would be educationally and socially leveraged by online learning (Drane et. al., 2020).

The discrepancy among regions or universities can challenge our nation's education during this pandemic. Higher education institutions in poor regions might have less opportunity to provide good internet access to their students. An educational institution with good ICT infrastructure will enhance its education services more rapidly than those with poor ICT infrastructure (Lee and Han, 2021), hence, the wider the digital divide, the wider the educational opportunity gaps (Lee and Han, 2021). As discussed above, we should rethink higher education after covid-19 and how it could deal with the issue of inequality.

There has been extensive research on online learning that can exacerbate educational inequalities (Warren and Bordoloi, 2020; Andrew, et al., 2020; Bayrakdar & Guveli, 2020; Doyle, 2020). Numerous research addresses school closure and online learning deteriorating the educational inequalities in primary and secondary schools. In addition, as discussed in the background of the study, this research argues that inequity, digital divide, and social injustice have been exacerbated during the covid-19 pandemic or vice versa. However, few studies explore the existing inequalities in higher education, especially in underdeveloped and developing countries.

More importantly, in Indonesia, there has been a lack of research regarding educational inequalities in online learning during the Covid-19 pandemic. Most research addresses how to improve online learning and teaching practice with the assistance of technology without seeing the socioeconomic and demographic conditions. Indonesia is still included in developing countries (Fahmi, 2016); so that this inequity issue should be considered. Further investigation about how to overcome the educational inequality in higher education related to access to good technological resources should be discussed. There should be ample opportunities and ways to assist disadvantaged students and narrow educational inequality.

Indonesia is a large country divided into some provinces facing different realities and adversity. West Sulawesi, as a new province established in 2005, has some drawbacks that challenge the growth of

the province. One of the issues is low educational quality. West Sulawesi notes higher school dropouts and a lower human development index than other provinces (BPS, 2021). Recent data about school accreditation revealed that West Sulawesi place the second-highest number of non-accredited schools in Indonesia (Report of National Accreditation Board for School, 2021).

Therefore, the main purpose of this research is to discover to what extent educational inequalities exist in Indonesia's higher education, particularly in West Sulawesi. Hence, we can draw up a proper solution to eradicate the inequalities and help disadvantaged students to cope with their academic issues during online learning. Understanding the significance and research context, this study will investigate how educational inequalities exist in the students' online learning experiences amidst the Covid-19 pandemic.

Online Learning and Its Challenges

Educational institutions are currently shifting from face-to-face teaching in classrooms to online learning to prevent Covid-19 transmission. Educators around the world are being challenged to improve the practice of online learning since this system was widely applied before Covid-19. Cojocariu et al. (2014) defined online learning as computer-mediated learning that connects to the internet network proposing various ways to learn from different places and times. Online learning can be a means that is able to transform the teaching-learning activity into more creative, innovative, self-paced, and promote self-regulated learning (Dhawan, 2020).

Online learning can be synchronous and asynchronous, applied using different devices such as mobile phones and laptops. Synchronous learning indicates real-time interaction between educators and students (Dhawan, 2020) for instance, zoom, google meet, and skype applications. Furthermore, Dhawan (2020) explained that asynchronous online learning does not use real-time or live lecture but appear as a different learning management system such as google classroom, moodle, and MOOCs, which are more self-paced. Asynchronous online learning might be more affordable because it does not need high internet data and bandwidth.

Even though online learning is thought to be a new creative and innovative form of teaching, it can lead to disengagement if it is not supported by good ICT skills and internet access. The existence of a digital divide between different socioeconomic families, and rural and urban communities might be a big challenge. Cutting-edge digital technology does improve the online learning system, but the most education system in underdeveloped and developing countries does not have good access to high-speed broadband and digital resources that are needed for online learning (Word Bank, 2020). In addition, schools and universities facilities, skillful teachers, and lecturers are also factors that need to be upgraded (Belay, 2020). Hence, these disadvantages can greatly affect students' educational experiences and academic engagement. Therefore, government and educational institutions should take serious action to eliminate the existing discrepancy.

Educational Inequalities in Online Learning

Educational inequality is a major issue facing modern society today, especially in underdeveloped and developing countries. The covid-19 pandemic impacts all aspects of life, including the education sector, and worsens the problems. Educational opportunities are mostly benefitted by people from affluent families and privileged backgrounds (Breen, 2010). Generally, inequality in education refers to individuals who are more or less interested in education and are the least privileged (Mcmaster & Cook, 2018). More specific discourse, educational inequalities are varied from gender, ethnicity, and socioeconomic background (Mcmaster & Cook, 2018). Gross et al. (2016) argued educational inequalities are the classification of individuals based on their social membership in a large society (social class, ethnicity, gender) and their access to good quality education.

One of the most visible factors of educational inequalities is socioeconomic status (SES) disparities in society. Socioeconomic inequalities are defined as "differences in educational outcomes between those with more financial, cultural and/or family resources, and those with fewer such resources" (Mcmaster &

Cook, 2018, p.4). Research said students from low socioeconomic backgrounds experience obstacles to accessing quality pedagogy and learning resources particularly technology and digital-related (Vernon et. al., 2019). Undoubtedly, the discrepancy for students from disadvantaged backgrounds is exacerbated by the rapid global movement toward online education (Chandra et al. 2020). Moreover, during the covid-19 crisis, some students might fight with the living cost especially those from low-income family backgrounds. Students from poor family backgrounds are more likely to work to cover their basic needs and living costs, which aren't covered by their parents (Montacute, 2020).

Furthermore, the rural and urban divide is also one of the potential causes of educational inequalities. People in rural areas tend to have less interest in education (Litheko, 2012). Students from rural areas and poor families face difficulties accessing good quality internet (Cai et al., 2020). Access to technology and internet devices is also not ubiquitous. With the minimum of technological support and digital resources in the classroom, educational institutions cannot perform optimal online learning. The lack of ready access to technology is the main impediment to technology integration in rural areas (Zhang et. al., 2015). Teachers and students are affected negatively by the rarity of technological facilities. Accordingly, online teaching and learning seem to exacerbate the educational inequalities.

In addition, the existence 'digital divide' becomes more visible in the educational sector during the covid-19 pandemic. According to Soomro et. al., (2020, p.1), the digital divide denotes "the gap between people who have adequate access to ICT and those who have 'zero' or poor access to ICT" The digital divide also amplifies the educational inequalities since the digital divide exists not only between more established and less established countries but also between regions within a country (Nishida, et al. 2014). The digital divide exists among poor and affluent students, and rural and urban students to have an opportunity in learning ICT skills or to update the cutting-edge technology. Therefore, disadvantaged students might not get the benefits of online learning since online learning requires good internet access and ICT skills and facilities. All in all, educational inequalities factors are inevitably ignored in improving online learning practices.

This research will describe the socioeconomic and demographic status and how students access technology for online learning. The research will also test whether educational inequalities exist by measuring two variables: rural-urban divide and digital divide. The rural urban divide is determined by how students access technology for online learning across different residential status. Digital divide is considered by how students access technology for online learning on different SES levels. We propose some hypotheses as follows:

H1: We expected the rural-urban divide to exist. There is a significant difference in accessing online learning across students who live in urban, suburban, and rural areas.

H2: We expected that the digital divide exists across socioeconomic status backgrounds. There is a significant difference in accessing online learning across students whose SES background is very low, low, medium and high.

2. METHODS

Participants

The sample consisted of higher education students in West Sulawesi who experienced online learning during the Covid-19 pandemic. The research invited students to fill out the online questionnaires via a google form. The questionnaires are shared through the WhatsApp application and collected by 381 participants from 4 major universities in West Sulawesi, State Islamic College of Majene, West Sulawesi University, Al Asyariah Mandar University, Tomakaka University which come from three regencies Polewali Mandar, Majene, and Mamuju. Most participants were female (70,8%) and 29,2 % were male. The locations of the students when online learning was held were spread rural, suburban, and urban.

Data Collection and Procedure

Data were collected during the odd semester of 2021/2022 via an online survey. The questionnaires are sent to higher education students who experience online learning during the Covid-19 pandemic. The questionnaires are shared through social media applications such as Whatsapp. The researcher contacted some heads of departments on each campus and asked them to share the online survey with the students. 381 students have filled in and completed the questionnaires.

The survey collected the demographic and socioeconomic status of the students. Demographic status was asked students' gender and location of the students during online learning, whether they live in rural, suburban, or urban. The SES factors collected the data of students' family income and educational background. In addition, the survey also gathered information about students' experiences with online learning and information technology access.

Instrument and Measures

The questionnaires consist of the following sections: background information, educational technology use and access to online learning, and online learning engagement. The survey first asked for background information which includes demographic and socioeconomic status. For demographic status, the survey gathered information about gender, respondent's institution, and respondent residential status amid Covid-19. For socioeconomic status, the survey gathered information about family income, parents' educational background, and parents' occupations.

Demographic and Socioeconomic Status. The first section of the questionnaires asked about the demographic and SES background of the students. The SES background information was gathered from parents' educational level: 1) not finish primary education, 2) primary education, 3) lower secondary education, 4) higher secondary education, 5) tertiary education; parents' occupation which is based on the Indonesian Standard Classification of Occupations (KBJI) 2014 consisted of four categories: 1) not working; 2). blue collar: personnel of agriculture, forestry, labor, and fisheries, production workers, operators of transportation equipment and manual workers, 3) gray collar: sales force and service workforce, 4) white collar: professionals, technicians; leadership, management and educational personnel and administrative staff; family income which is based on classification of Indonesian Central Bureau of Statistics with 4 classifications: 1) Low: Rp. 0–Rp. 1.500.000, 2) Moderate: Rp.1.500.00- Rp. 2.500.000, 3) High: Rp. 2.500.000-Rp.3.500.000, 4) Very High: more than Rp. 3.500.000.

Technological Use and Access to Online Learning. This scale was used to test whether the digital divide exists in the population. This scale was to measure the technological use & access to online learning (7 items) using a Likert scale from strongly disagree (1) to strongly agree (5): internet data are affordable for me, I have a good quality internet network, I attend online class frequently, I have reliable internet support, I do not have any difficulty in using online learning application, I have access to online learning resources, I can use online learning resources to help my academic performances; and 1 item asked ownership of gadgets for online learning with close-ended response (1- not own, 2-belongs to friends or families, 3-belongs to me).

Data Analysis

Statistical analysis was conducted by using the SPSS application. To understand the overview and distribution of the data, descriptive statistics analysis was applied. Descriptive analysis will understand the general description and data summary of participants' socioeconomic and demographic status, technological use and access to online learning, and online learning engagement. Besides, the central tendency and variability of the data were also informed. This will be shown by using a table, graphs, charts etc. Meanwhile, inferential analysis was conducted to know students' experiences with technological use and internet access, and online learning engagement during covid-19. Moreover, a test of difference was applied to understand whether educational inequalities exist in the population.

Reliability and Validity

In the current study, Cronbach's alpha was used to measure the reliability of the questionnaires. A higher Cronbach's alpha index indicates that Likert scale questionnaires are reliable. In other words, it informs us that the scales are designed reliably and accurately to measure the variable of interest. According to Taber (2018), the overall reliability of Cronbach's alpha index is .80, designated as a satisfactory level of internal consistency from a universal research context. Although there are so many versions of the internal consistency index concluded by Taber in his article, the following might help us to determine the accurate value.

Table 1. Cronbach's Alpha Value (Taber, 2018)

Cronbach's α	**Reliability**
0.93 or higher	Excellent
0.91 – 0.93	Strong
0.84 – 0.90	Reliable
0.81 – 0.83	Robust

To test the reliability of the questionnaires, we conducted a small test on 29 participants. The pilot test was conducted before the real survey reached the wider population. The reliability test was analyzed using IBM SPPS 26 software program to determine the internal consistency. The Cronbach's alpha value was obtained and showed high scores. Therefore, based on the categorization of the table above and the agreement of most experts, the questionnaires are reliable.

Table 2. Cronbach's Alpha Coefficient of the Pilot Test

Variables	Cronbach's alpha	Sums of item
Technological use and access to online learning	0.848	7

In addition, validity requests whether the functional instrument accurately captures responses and how well questions are used in the scale hence expressing the quality of the data obtained (Marquart, 2017). It is simply to explain that we accurately measure what we want to measure (Field, 2005). One way to determine the validity is through Pearson's Correlation Coefficient. If Pearson's correlation coefficient is greater than the critical values from the table, the item is considered valid (see the table of critical values for pearson's r). The validity of the instruments was also analyzed with IBM SPSS 26 software program to check the pearson's r. After being tested, the result proved that all items in our questionnaires are all valid.

3. FINDINGS AND DISCUSSION

Initially, descriptive statistics are conducted to understand the demographic characteristics of the population. This involves primarily describing the locations where online learning is conducted and examining the distribution of students' socioeconomic status based on their parents' educational levels, occupations, and incomes.

Finding

Demographic and Socioeconomic Background

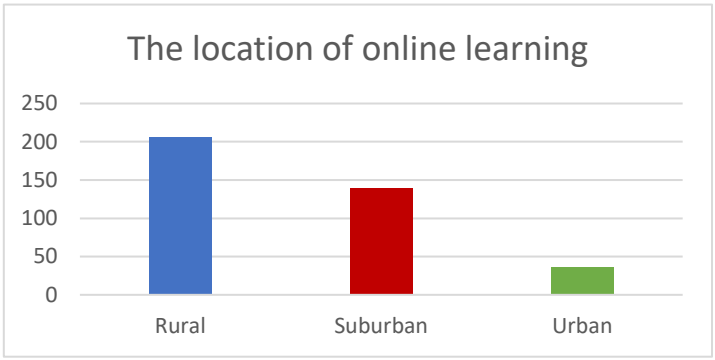

Figure 1. Description of Demographic Status

The table informs us that most students live in rural areas with the percentage of 54% and 36,6% of students live in suburban areas and only around 9,4 % live in urban areas. We can conclude that higher education students who study at universities in West Sulawesi mostly come from rural areas.

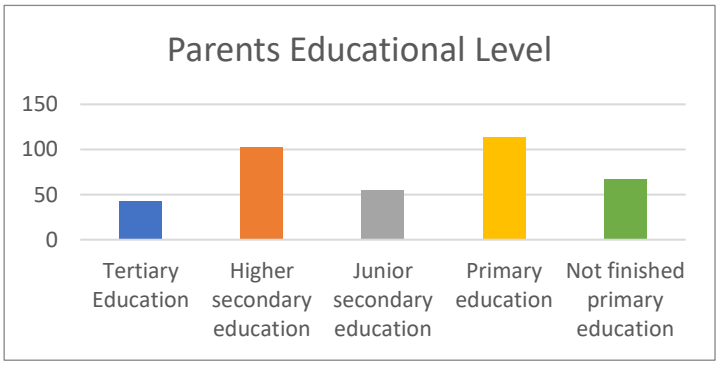

Figure 2. Description of Parents Educational Level

According to the graph above, most students come from families whose parents finished primary education with a percentage of 30% and the second largest group comes from a family whose parents finished higher secondary education with 27%. 17.6% of students come from families even not finished primary education, and 11 % finish junior secondary education. The most significant figure is only 11 % of students who come from families with tertiary education graduates which becomes the minority of the population. Higher SES family tends to be categorized by parents who finished a higher level of education while lower SES family does not have a higher level of academic achievement. In conclusion, 11 % of students counted come from a higher level of education family and 89% of students do not.

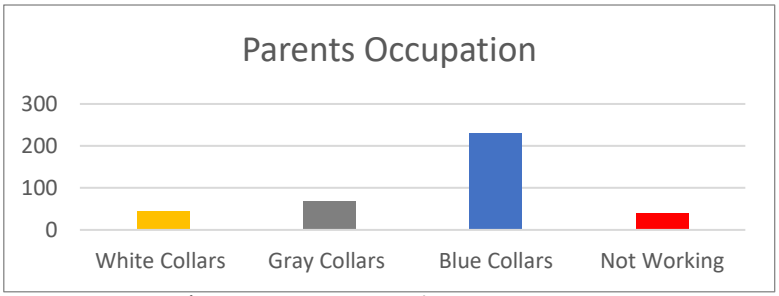

Figure 3. Description of Parents Occupation

Based on the data described above, we find that 39 parents are not working, 231 students come from blue collar parents and mark the highest percentage. Blue collar workers are those who work as personnel in agriculture, forestry, labor, and fisheries, production workers, operators of transportation equipment and manual workers. 67 parents are gray collar workers who work in sales forces and service workforce, while only 44 parents are whiter collars workers who work as professionals, technicians, leadership, management and educational personnel and administrative staff. We can conclude that 11.6% of students come from higher SES family, 17.6 % students come from middle SES family, and 70.8% students come from lower SES family.

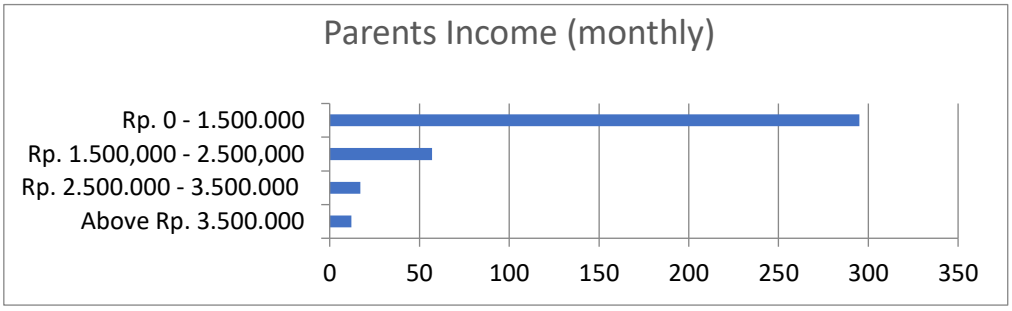

Figure 4. Description of Parents Income

Based on the chart above, 295 students come from lower income families which mark the highest number in the population. 57 students come from relatively moderate-income families, 17 students come from high income families and only 12 students come from very high-income families. We can conclude that the majority of students come from lower income families with 77.4 % percentage. Furthermore, 15% of students come from middle income families and only 7.6 students come from higher-income families.

We have analyzed the whole central tendencies of three categories of SES, and we found that 80 students (21%) come from very low SES families, 217 students (57%) come from low SES families (57%), 40 students (10.5%) come from middle SES family, and 44 students (11.5%) come from high SES family.

Technological Use and Access to Online Learning

First, we survey how many students own gadgets for online learning. The question asked whether the students used their own gadget in online learning with three possible responses: not own, belongs to friends and family, and belongs to me.

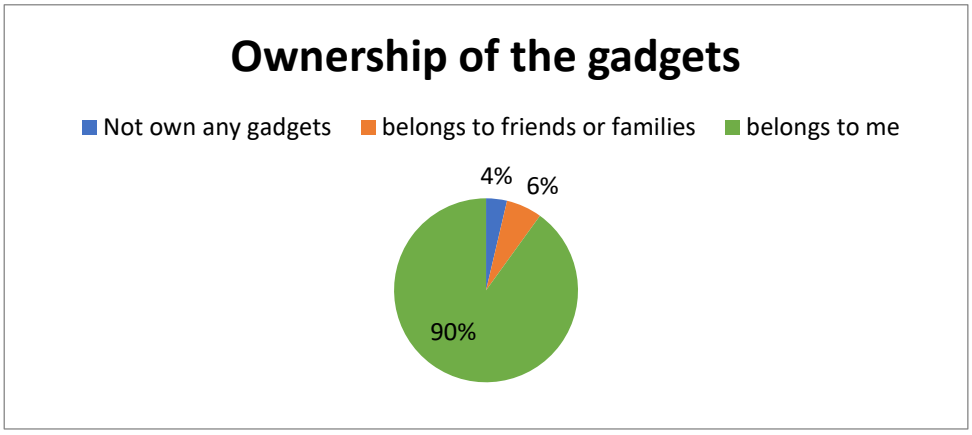

Figure 5. Ownership of gadgets for Online Learning

It can be seen from the pie chart above that 90 % students (N=343) own the gadget and use it for online learning, 6,3% students (N=24) borrow their family and friends' gadgets, and 3.7% students (N=14) do not have gadgets for online learning. Based on the survey of technology use and access to online learning with scale 1: strongly disagree, 2: disagree, 3: neutral, 4: agree, 5: strongly agree, we found the central tendency as follows:

Table 3. Technological Use and Access to Online Learning

	Item	Median	Mean	SD
1.	Internet data are affordable for me	3	3.3	1.00
2.	I have a good quality of internet network	3	3.2	1.04
3.	I attend online class frequently	4	4.1	1.06
4.	I have reliable internet support	3	3.2	0.98
5.	I do not have any difficulty in using online learning application	3	3.3	1.05
6.	I have access on online learning resources	3	3.5	0.98
7.	I can use online learning resources to help my academic performances	4	3.6	1.01

Students tend to choose neutral responses regarding items 1, 2, 4, 5, 6, and choose agree response on items 3 and 7. This means students are more likely to attend online classes despite the internet data and network. Students also respond well on item 7 that they can use online learning resources to help their academic performance. Overall, the descriptive statistics of the subscale showed that students' experiences on technological use and access to online learning (N= 381, Mean: 3.4 Med: 3) are neutral. It can be concluded that higher education students in West Sulawesi tend to choose neutral (neither disagree nor agree) in responses to technological use and access to online learning.

Does Educational Inequality Exist in the Population?

We will test educational inequalities in three different areas, rural-urban divide, digital divide at SES level, and online learning engagement at SES level. Test of normality has been piloted for both access to online learning and online learning engagement variables by considering the skewness and kurtosis. The data set showed a normal distribution. In addition, parametric statistics still can be used with non-normal distribution data and Likert-scale data (Norman, 2010).

Rural-Urban Divide. We want to test whether the access to online learning and are different in 3 categories (rural, suburban, and urban areas) where students live. As given definition, this also measured Digital Divide (across places). One-way Anova is used to examine the difference in those variables.

Table 4. Test of Difference (Rural-Urban Divide)

Variables		N	Mean	Std. Deviation	One-Way Anova
Technological Use and Access to Online Learning	Rural	206	3.35	.82	**0.04**
	Suburban	139	3.56	.81	
	Urban	36	3.80	.82	
	Total	381			

The table illustrates that there is a difference in the three categories with p-value < 0,05 which is 0,04, hence it rejects the null hypothesis. This informs us that there is a variance in how students use the technology and access online learning from three different demographic statuses. Therefore, rural-

urban divide still exists in the population though there is only a slight difference in the three demographic groups. Students who live in urban populations tend to have higher access to online learning and better use of technology. Students who come from the suburban population also have better use of technology and access to online learning than those who come from the rural population. However, the table shows differences in online learning engagements. Even though three groups have different access to online learning, the online learning engagement is not proved to be different in rural, suburban, and urban groups.

Digital Divide (across SES). The digital divide is shown by the technological use and access to online learning. We want to discover whether the socioeconomic status of the students will show differences in accessing online learning technology. The socioeconomic status is categorized into 4 groups: Very Low-SES, Low-SES, Middle-SES, and High-SES. SES groups categorization is obtained from descriptive statistical analysis of socioeconomic variables. In addition, to test the data disparities, one-way ANOVA was conducted.

Table 5. Test of Difference (Digital Divide)

	N	Mean	Std. Deviation	P-Value
Very Low SES	80	3.40	.82	
Low SES	217	3.44	.86	
Middle SES	40	3.62	.70	
High SES	44	3.63	.78	**0.27**
Total	381			

The data showed that there is no significant difference in technological use and online learning access among groups. The p-value is higher than 0,05, therefore it rejects the alternative hypothesis. In brief, the digital divide does not exist in the population. However, we might see in the mean score that there is a slight difference in very low SES and low SES groups compared to middle SES and high SES groups. Middle SES and high SES groups have higher access to online learning than the two lower groups.

Discussions

The current study investigated the experiences of higher education students in West Sulawesi province in Indonesia towards online learning practice. This research examines whether educational inequalities exist in the populations by understanding the rural-urban divide and digital divide. The rural-urban divide here refers to the differences in technological access to online learning life between rural, suburban and urban areas. While digital divide refers to the gap between individuals at different socio-economic levels regarding their access to, and use of information and communication technologies (ICT) for online learning.

We explore the descriptive statistics of the demographic and socioeconomic backgrounds of the students to understand the disparities in the population. The population in this study is higher education students who enroll at universities in West Sulawesi. The demographic variable focuses on the address of the students during the online learning defined as rural, suburban, and urban areas, while the socioeconomic variable is derived from parents' educational level, parent occupation, and parent income. Furthermore, educational inequalities are characterized by the rural-urban divide, digital-divide, and disparities in SES level.

Before interpreting the hypothesis testing, the social condition of the population of higher education students in West Sulawesi needs to be pointed out. Besides, we also interpret the experiences of higher education students regarding their responses to technology use and access to online learning and their experiences of online learning engagement during the covid-19 pandemic.

Our findings present information about the demographic and socioeconomic status of the students. Most higher education students in West Sulawesi come from rural and suburban areas. Commonly, residents in urban areas mainly migrate to bigger cities to pursue better higher education. Furthermore, the data also signifies that the students are generally from lower SES families whose parents' educational level is only until primary education and high school. In addition, students typically are from blue collar families whose parents work in agriculture, forestry, labor, fisheries, drivers, and manual and construction workers. Income per family is predominantly at the lowest level. This data gives an overview of the population of higher education students in West Sulawesi. Despite the disadvantages, students aspire to pursue better education and surpass many obstacles to achieve their aims. Such advantages have been mitigated by higher education institutions in West Sulawesi by offering cheaper educational costs (Regulation of the Minister of Religion regarding Tuition Fees at State Islamic Universities, 2022; Head of STAIN Majene's Regulation regarding the tuition fee, 2020)

To understand whether educational inequalities exist in the population, we have analyzed the rural-urban divide and digital divide in the population regarding access to online learning. Per our first hypothesis, the result proved a rural-urban divide in the population regarding how they use technology and access online learning. Students from urban areas have higher access to technology and online learning, followed by suburban and rural areas. As we found that students who enroll at universities in West Sulawesi mainly come from rural areas, the results may prove something different, yet the finding confirms that the rural-urban divide still exists. This is in line with the previous research by Litheko (2012) and Cai et al., (2020) who found that students from rural areas have less access to good quality internet and education.

The digital divide was analyzed by comparing socioeconomic disparities in technological use and access to online learning. We have categorized the population into very low SES, low SES, middle SES, and high SES. Based on descriptive statistics, the majority of the population is categorized lower SES families. Hence our second fails to reject the null hypothesis. There is no significant difference in the population. In our survey, almost all students in the population have gadgets to be used in online learning though they are from lower SES. But it should be noted that the devices they used for learning were smartphones. This may explain why the students thought there were no issues about technology devices. Thus, despite the socioeconomic status of the family, students are able to access online learning. Some possible explanations are that many scholarships provided by the government to lower SES students may help them strive in college for instance the distribution of Smart Indonesia Card-College (Cabinet Secretariat of Indonesia, 2019; Ministry of Education and Culture, 2021). In addition, during the covid-19 pandemic, the Indonesian government has also provided free internet quota for online learning (Regulation of General Secretary of the Ministry of Education and Culture, 2021) about technical instructions for distribution of government assistance for internet data quota packages in 2021. Moreover, during the covid-19 pandemic, some universities in West Sulawesi, for example STAIN Majene reduce the tuition fee (Regulation of the Head of STAIN Majene, 2020). Nevertheless, the mean score still showed us the higher the SES level, the better the technological and online learning access.

Our findings provide valuable information for political and government leaders, especially in West Sulawesi, to pay attention to the welfare of the students. Many of the students who enroll at universities are from disadvantaged families. Local leaders and governments should grant them sufficient scholarships or other financial aid to ensure that these young generations finish their studies. Moreover, educational leaders in higher education must realize this defiance as a positive challenge. Though the students are mainly from lower SES levels, they manage to have good access to online learning. If the students are given better resources and opportunities in online learning, they may demonstrate better academic performances (Adarkwah, 2021; Singh et al, 2021). Educational leaders in higher education may strengthen the regulation to help students become more engaged in their offline and online academic experiences. Lecturers are also challenged to apply various learning methods and strategies both in synchronous and asynchronous online learning to invite students more engaged in the learning process.

Through this research, we have exposed empirical evidence about higher education students' experiences with online learning in West Sulawesi. We have proved that digital divides (across SES) do not exist in a relatively homogeneous population. As we work on this research, we acknowledge some limitations that contribute to the incompleteness of this research. First, the sample of this study is very limited and may not be accurately generalized. The number of participants should be added to have more generalization and help us to produce a more reliable conclusion. Secondly, our study does not seek answers about students' employability, or whether they have a side job that helps them finance their studies. Thirdly, we also do not propose in the instrument whether the students get a scholarship and free internet data from the government, financial aid from relatives, or other forms of financial aid. Fourthly, we also fail to explore whether the institutions provide convenient institutional policies and if the lecturers use affordable learning management systems that help students stay engaged during online learning courses. Those variables might be significant to invigorate the credibility and rationality of our claims and arguments.

4. CONCLUSION

This study explored the experiences of higher education students in West Sulawesi province in Indonesia towards online learning practice. This research studies whether educational inequalities exist in the population and further also examines whether demographic and socioeconomic factors as variables in this study predict online learning engagement. The first finding is the exploration of population distinctiveness in West Sulawesi. We restate that the population is higher education students who enroll at major universities in West Sulawesi. Our significant findings are: 1) most students are from rural areas followed by suburban areas; (2) most students come from lower educational level parents; 3) most students come from blue collars families; and 4) most students come from lower income family. In our conclusion on the categorization of SES, we found that most students come from low SES families.

Our research is to understand whether educational inequalities exist. We found a significant difference in urban, suburban, and rural areas on how they use technology for online learning, thereby, the rural-urban divide still exists. However, the digital divide does not exist in the population since there is no significant difference across socioeconomic status levels on how they use technology for accessing online learning. Furthermore, this is to emphasize that educational inequalities partly exist in the population. For further investigation, we immensely recommend for researchers to do in-depth exploration specifically in the population to find the accurate answer to why educational inequalities (across SES) do not exist.

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