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Exploring Factors Influencing Student's Learning Difficulties During Pandemic in Indonesia: A Structural Equation Modelling

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Abstract: The pandemic era has caused changes in the learning system. The situation demanded online learning and triggered students to have learning difficulties. The research aims to examine the impact of social media, social environment, and student learning potential on student learning difficulties. This study utilizes a quantitative approach. The respondents were university students experiencing online learning in West Java, Indonesia. A questionnaire validated by four experts was distributed to 539 of them. Accommodating structural equation modeling (SEM) by evaluating the measurement and structural models was used in data analysis. This study revealed that the instrument had good construct validity and reliability. A good instrument will produce a good measurement process so that the instrument can get the data needed. Hypothesis testing shows that high media activity can inhibit students from learning. However, social media activity directly influences learning difficulties. Meanwhile, the variables of learning potential and social environment positively influence student learning difficulties directly or indirectly. There are a few things to note on learning potential, social environment, and social media to delve into their influences on students' learning difficulties.

Keywords: *Learning difficulty, learning potential, social environment, social media activity, structural equation modeling.*

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Introduction

Starting in 2019, the spread of the Coronavirus has significantly affected various elements of life, one of them being education. The effect of the coronavirus attack in the educational field is the implementation of distance learning or online learning. The closure of educational institutions at various levels has led to instructional changes in the education system. When the pandemic first attacked, many institutions maintained online learning in preparation at the higher education level for a short time. Prof. Anant Agarwal, founder, and CEO of edX (Salmi, 2020), even said that the world is changing from 1, 2, or 3 percent learning online to 100 percent learning online. Furthermore, in Indonesia, internet use has increased throughout the 2019-2020 period to 73.7% (196 million internet users), 8.9% higher than the 2018 period (Asosiasi Penyelenggara Jasa Internet Indonesia, 2020).

The high level of internet penetration is in line with educational activities leading to the formation of digital competencies in learning for lecturers, students, and other education actors. Dealing with it, Batez's (2021) opinion said that the transition to online learning requires students, teachers, lecturers, and professors to have a satisfactory level of digital literacy. However, although online learning is used as the best alternative to learning during the pandemic, the other side, it can improve educators' and students' digital competencies.

Even though online learning caused by the Coronavirus condition adjusts students, teachers, lecturers, and professors with new skills, learners cannot optimally absorb and engage in the learning process. Moreover, since they are not directly connected in one sphere with the lecturers, other things can easily interrupt the concentration in online learning. Therefore, it can be assumed that many learners worldwide have incomplete learning experiences during online learning during the pandemic period (Salmi, 2020). Furthermore, students are easily distracted during online

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learning at home because the condition of the family environment that is not conducive can influence learning. This condition, somehow, causes learning difficulties. Moreover, increasing the amount of homework besides school assignments that must be done cause a decrease in the enthusiasm of students for learning (Al-Baadani & Abbas, 2020; Yang, 2020).

University students are considered adults who have the maturity to study by themselves. However, in this situation, they also suffer learning difficulties caused by the unexpected barriers to online learning, as mentioned above. It further strengthens the opinion that students, often referred to as adults and independent learners, can experience some learning difficulties during a pandemic. Although they are more manageable and can better adapt their learning style to the characteristics of online learning, which requires them to have good digital literacy skills, it turns out that digital literacy skills can be one of the causes of learning difficulties in students.

In their research, Neuwirth et al. (2020) stated that during several virtual classroom sessions, students did not exhibit the expected behavior in a virtual classroom setting. They often looked unfocused and not as involved in learning as when face-to-face learning was conducted. Then because of the decrease in learning motivation, students usually try to find an escape by doing social media activities on the sidelines of their surfing activities. Besides, they also tend to browse the internet to search for information, as we know that online learning and lockdowns in some areas have affected student activities to socialize with friends or family. Therefore, students' social media activities are predicted as a form of escape that can cause them to be a distraction in learning. These distraction activities tend to be a new learning style during the pandemic period that is not supporting the learning process.

Learning styles and social media activities influence learning difficulties during the pandemic (Basilaia & Kvavadze, 2020; Majola & Mudau, 2022; Naciri et al., 2020; Neuwirth et al., 2020; Pham & Ho, 2020; Wang et al., 2022). After knowing that students show difficulties or deviant behavior during online learning, educators at the university level must be able to think of the best solution to overcome these problems. Post-pandemic education should provide greater flexibility and collaboration for both parties. Student and university collaboration are critical as flexibility must be available for both parties to actively engage in online learning (Neuwirth et al., 2020).

Based on this background, the research intends to examine learning difficulties through student learning styles and online social media activities in the pandemic era. Much research on detecting learning difficulties has been conducted but seeing students' learning difficulties through their learning styles and social media activities are still rarely done. For example, research conducted by Annur and Hermansyah (2020) related to learning difficulties faced by mathematics education students during online learning only highlighted three challenges faced by students, namely technical difficulties (limited internet access), adaptation (non-conducive home environment), and the unpreparedness of lecturers in conducting learning. Ririen and Hartika (2021), in their research, only highlighted the learning difficulties experienced by students in statistics courses only. Even so, the learning difficulties found by Ririen in students are due to self-factors that tend to have a lazy attitude towards learning and low learning motivation, teachers who are not ready, factors from the environment/parents, also facilities and infrastructure factors. Ulfa and Mikdar (2020), in their research on student learning, social and health behavior during the pandemic, also said that online lectures harmed students' technical learning difficulties. The literature study shows that learning difficulties experienced by students during online learning are caused by several factors, such as technical constraints, adaptation, and barriers from within individual students. Therefore, to complement previous research that did not include learning style factors and social media activities, this study aims to detect student learning difficulties through learning styles and social media activities to prepare for post-pandemic learning.

Methodology

Research Design

This research uses a quantitative approach with a structural equation model (SEM) research design (Teo et al., 2013). SEM is a research design aiming to test a complex model that is relatively difficult to measure together (Sarstedt et al., 2017). SEM reviews the observed variables that form the latent variables so that a complex model is constructed using a statistical approach. The SEM design is considered appropriate to be applied in this study because this research emphasizes the effect of social media activity on learning potential and the social environment that affects student learning difficulties using indicators developed. The model developed in this study is shown in Figure 1.

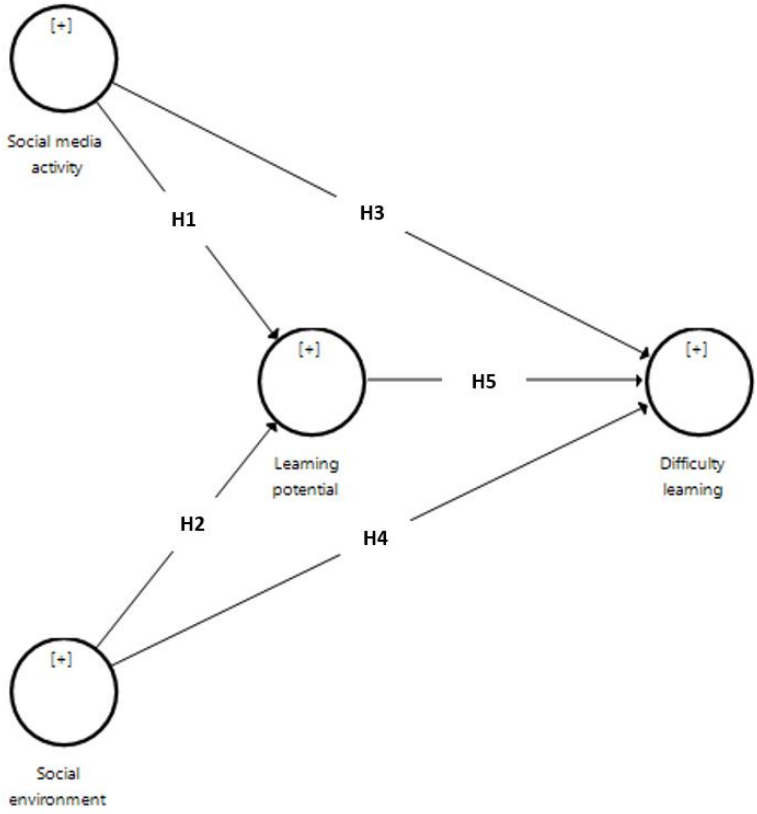

Figure 1. Model and Hypothesis

From this model, the research aims to delve into the relationship between each factor. First, these factors are filled with observed variables, explaining the latent variables. Then, each latent variable's relationship with the other, according to Figure 1. To illustrate the hypothesis and research objectives in detail, see Table 1.

Table 1. Research Hypothesis

Hypothesis	Relationship
H1	Social Media Activities -> Learning Potential
H2	Social Environment -> Learning Potential
H3	Social Media Activities -> Learning Difficulties
H4	Social Environment -> Learning Difficulties
H5	Learning Potential -> Learning Difficulties

Table 1 describes the three hypotheses proposed in this study. They all focus on different paths. Each path examines the effect of one variable on another variable.

Sample and Data Collection

The sample of this research is university students from several universities in West Java, Indonesia, who have been experiencing online learning for at least a semester. These students are from teacher education study programs and taking Base Education Course courses. The characteristics of the respondents can be seen in Table 2.

Table 2. Descriptive Statistics of University Student Respondents

Items	Type	Frequency	Percentage
Gender	Male	181	33.58 %
	Female	358	66.42 %
Age	17	24	4.45 %
	18	497	92.21 %
	19	18	3.34 %
Socioeconomic status	Low	256	47.50 %
	Middle	127	23.56 %
	High	156	28.94 %

The research was conducted on students who have done online learning in 2021. It is done because researchers will investigate students' learning difficulties in online learning. First, each research sample is given several questions developed from the resulting data analysis.

The research instrument was developed based on the adaptation process from several references (Table 3). The instrument was a questionnaire containing social media activity, social environment, learning potential, and learning difficulties variables. The research instrument consists of 29 items. The research instrument uses a Likert scale with the answer choices strongly agree, agree, undecided, disagree, and strongly disagree. The questions on the research instrument are listed in Table 3.

Table 3. Questionnaire Items

Variable	Item	Constructs	References
Difficulty learning	DL1	I have a physical handicap in to study	(Khasawneh, 2021; Kormos, 2020; Pertiwi et al., 2019; Tunmer & Hoover, 2019)
	DL2	I have difficulty understanding learning concepts/topics	
	DL3	I do not like to participate in the learning process actively	
	DL4	I tend to violate the rules/social norms/moral norms/law, and religion	
	DL5	I am easily aroused by emotions/irritable	
	DL6	I often play and hang out with friends when I have to do assignments	
	DL7	I am busy with organizational activities	
	DL8	I find the learning carried out very boring	
	DL9	I am having trouble finding learning resources	
	DL10	I do not have an electronic device to support learning	
Learning potential	LP1	I can think critically, creatively, and innovatively.	(Sakib et al., 2021; Xiao & Yang, 2019)
	LP2	Other people's opinions do not easily influence me.	
	LP3	I do not run or dodge when I get into trouble.	
	LP4	If I encounter a problem, I will solve the problem myself without the help of others.	
	LP5	I do not feel inferior when I have to be different from others.	
	LP6	I try to work with diligence and discipline.	
Social environment	SE1	I was born into a family that has sufficient economic conditions.	(Allodi, 2002; Liang & Li, 2019)
	SE2	I have a good relationship with my parents/other family members.	
	SE3	My family has always given me positive support and encouragement.	
	SE4	My family gives me the right and freedom to make choices in my life.	
	SE5	I have a healthy social circle.	
	SE6	I enjoy interacting with other people.	
	SE7	The community environment where I live encourages me to be passionate about learning.	
Social media activity	SMA1	I play social media intensively (more than 3 hours a day).	(Kligler-Vilenchik et al., 2020; Tufekci & Wilson, 2012)
	SMA2	I play social media to gain popularity.	
	SMA3	I prefer to interact online than offline.	
	SMA4	Social media activity affects my social anxiety.	
	SMA5	I always share every moment of my life on social media.	
	SMA6	I am obsessed with getting good feedback or comments from others about the things I upload on social media.	

The questions were given to the university students. They were asked to choose a scale from strongly agree to disagree. Before this instrument was given to them, it was validated by four experts, consisting of two pedagogical experts, one psychometrician, and one media technology expert. Validity is calculated by the Aiken validity index (Aiken, 1980). The results of the expert validation indicate that the average validity index of Aiken's is .860. These results reveal that the instrument used is well-validated and can reach the research objectives. Table 4 displays descriptive statistics of the results of data collection.

Table 4. Descriptive Statistics

Item		Mean	Standard Deviation	Excess Kurtosis	Skewness
Difficulty learning	DL1	3.148	0.687	0.162	-0.477
	DL2	3.052	0.701	-0.343	-0.267
	DL3	3.156	0.693	0.102	-0.487
	DL4	3.382	0.709	0.194	-0.892
	DL5	3.076	0.751	-0.079	-0.495
	DL6	3.158	0.694	0.094	-0.489
	DL7	3.150	0.701	0.007	-0.477
	DL8	3.006	0.732	-0.028	-0.407
	DL9	3.150	0.690	0.124	-0.479
	DL10	3.150	0.696	0.189	-0.511
Learning potential	LP1	1.904	0.614	1.317	0.493
	LP2	1.878	0.624	0.989	0.460
	LP3	1.848	0.620	1.089	0.488
	LP4	1.848	0.620	0.891	0.441
	LP5	1.857	0.618	0.720	0.385
	LP6	1.855	0.619	0.903	0.434
Social environment	SE1	1.586	0.701	1.581	1.199
	SE2	1.588	0.703	1.536	1.193
	SE3	1.551	0.666	1.480	1.152
	SE4	1.592	0.718	2.089	1.301
	SE5	1.570	0.662	0.992	1.013
	SE6	1.594	0.713	1.369	1.176
	SE7	1.646	0.753	1.106	1.133
Social media activity	SMA1	2.816	0.881	-0.771	-0.220
	SMA2	3.230	0.745	0.054	-0.697
	SMA3	3.213	0.752	-0.149	-0.636
	SMA4	3.213	0.756	0.002	-0.686
	SMA5	3.206	0.756	-0.110	-0.646
	SMA6	2.839	0.875	-0.743	-0.246

Data Analysis

The data analysis in this research was SEM analysis. SEM analysis can provide information about the effect of exogenous variables on endogenous variables with complex models. It will be in line with the objectives of the research—the SEM analysis with SmartPLS software. In conducting analysis, SmartPLS operates the path modeling method Partial Least Squares Algorithm (PLS) developed by (Wold et al., 1983).

Analysis with SmartPLS uses a maximum iteration of 300 and stop criteria 7 to perform calculations with the PLS algorithm. After the estimate is complete, the calculation results are evaluated in 2 stages. There are two stages of evacuation, the evaluation of the measurement model and the evaluation of the structural model (Pirouz, 2006). The evaluation of the measurement model will focus on the validity and reliability of the indicators or variables observed in carrying out the measurement process on the developed model. The results of the measurement evaluation show the quality of the instruments used. The evaluation of the structural model focuses on testing research hypotheses and seeing the effect of the variables on the model.

The analysis results in the measurement model provide information about the developed path model. In addition, this path model provides the loading factor. The results are presented in Figure 2.

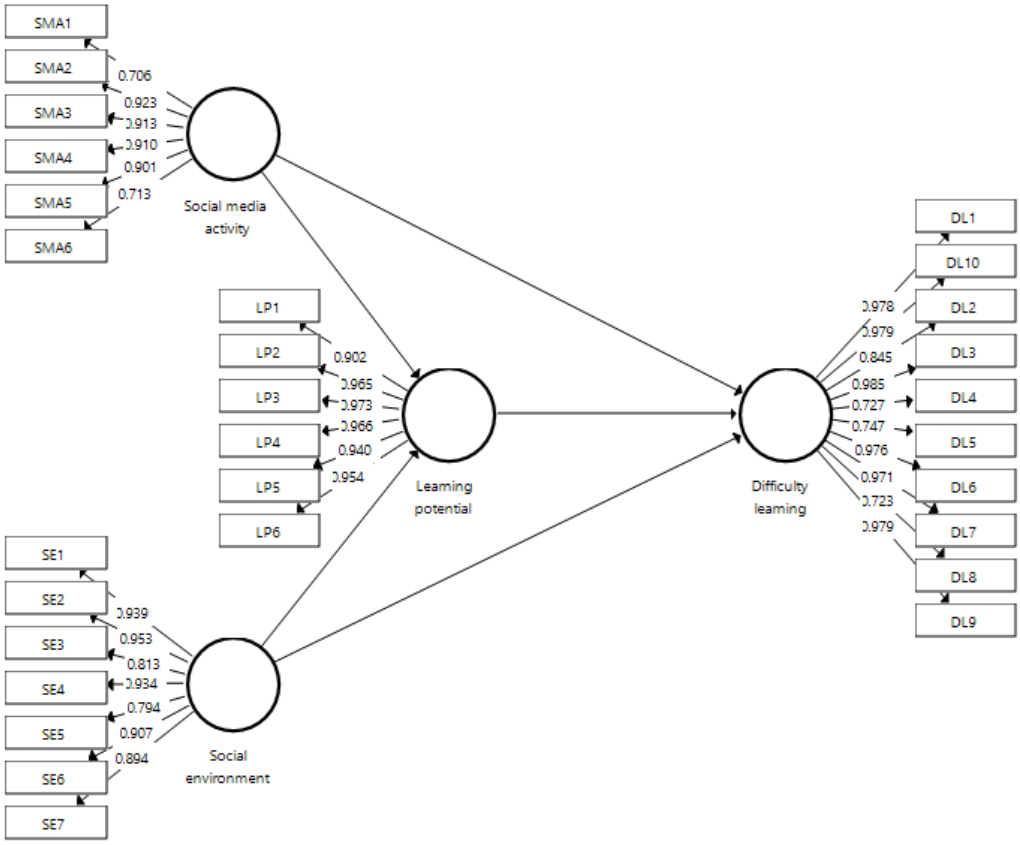

Figure 2. A Result of the Path Model

These results provide information that the loading factor on each variable has a good value in the range of values from 0.706 to 0.985. Each variable shows a value that is almost evenly same distributed. Each variable offers an almost even and consistent value. The loading factor should be greater than .700 (Hair et al., 2012; Wijaya et al., 2022). If the loading factor of each variable is more significant than .700, it is concluded that all variables in the instrument meet the standard. This result also shows that the observed variables developed can explain a latent variable. There is other information, namely the validity and reliability of the analysis results, presented in Table 5.

Table 5. Result of Loading Factor, Validity, and Reliability

Latent Variable	Indicator	Loading Factor	t-value	Cronbach's Alpha	rho_A	Composite Reliability	AVE
Difficulty learning	DL1	.978	255.388	.971	.977	.976	.806
	DL2	.845	31.953				
	DL3	.985	435.538				
	DL4	.727	23.645				
	DL5	.747	21.312				
	DL6	.976	224.551				
	DL7	.971	121.279				
	DL8	.723	20.135				
	DL9	.979	267.165				
	DL10	.979	219.197				
Learning potential	LP1	.902	40.625	.978	.979	.982	.903
	LP2	.965	126.182				
	LP3	.973	170.719				
	LP4	.966	131.516				
	LP5	.940	59.047				
	LP6	.954	112.241				
Social environment	SE1	.939	86.468	.957	.959	.965	.797
	SE2	.953	115.462				

Table 5. Continued

Latent Variable	Indicator	Loading Factor	t-value	Cronbach's Alpha	rho_A	Composite Reliability	AVE
	SE3	.813	33.825				
	SE4	.934	39.333				
	SE5	.794	31.442				
	SE6	.907	49.138				
	SE7	.894	48.683				
Social media activity	SMA1	.706	6.751	.920	.919	.939	.722
	SMA2	.923	12.404				
	SMA3	.913	12.272				
	SMA4	.910	12.098				
	SMA5	.901	12.034				
	SMA6	.713	6.897				

Table 5 shows that the loading factor on each observed variable has a good influence value. It can be seen that the value of the loading factor is more than .700. The consistency is also proven through Cronbach's alpha (Cronbach, 1951; Tavakol & Dennick, 2011). Considering consistency in addition to Cronbach's Alpha, it can be with Composite Reliability (Fornell & Larcker, 1981). Several references recommend a lower limit of reliability which is 0.5 (Fornell & Larcker, 1981), 0.7 (Nunnally, 1978), and 0.8 (Niemi et al., 1986). The consistency through Cronbach's Alpha of each latent variable also has an excellent value with an average of more than 0.9. Information related to convergent validity (AVE) shows how much an indicator positively correlates against other indicators on the same contract. The lower validity limit is 0.7 (Sarstedt et al., 2017). In addition, the value of construct validity, rho A on each variable, has an outstanding value. It shows that the measurement process in the developed model is perfect and can explain the model. There is other information, namely discriminant validity. To see discriminant validity, researchers used Fornell-Larker, Cross loadings, and HTMT.

Table 6. Results of Discriminant Validity Based on Fornell–Larcker Criterion Results

	Difficulty learning	Learning potential	Social environment	Social media activity
Difficulty learning	.898			
Learning potential	- .281	.95		
Social environment	- .177	.323	.893	
Social media activity	.132	- .097	- .082	.850

Table 7. Additional Validity Discriminant Measurement Results Based on Cross Loading

	Difficulty learning	Learning potential	Social environment	Social media activity
DL1	.978	- .274	- .155	.116
DL10	.979	- .277	- .145	.099
DL2	.845	- .283	- .190	.132
DL3	.985	- .278	- .149	.114
DL4	.727	- .204	- .203	.163
DL5	.747	- .198	- .161	.107
DL6	.976	- .272	- .143	.110
DL7	.971	- .273	- .146	.110
DL8	.723	- .158	- .155	.129
DL9	.979	- .268	- .142	.113
LP1	- .248	.902	.314	- .090
LP2	- .273	.965	.316	- .093
LP3	- .276	.973	.311	- .101
LP4	- .291	.966	.302	- .094
LP5	- .267	.94	.286	- .093
LP6	- .245	.954	.312	- .078
SE1	- .146	.277	.939	- .091
SE2	- .146	.295	.953	- .081
SE3	- .191	.300	.813	- .069
SE4	- .134	.276	.934	- .059

Table 7. Continued

	Difficulty learning	Learning potential	Social environment	Social media activity
SE5	- .163	.294	.794	- .070
SE6	- .184	.310	.907	- .060
SE7	- .124	.246	.894	- .081
SMA1	.140	- .052	- .059	.706
SMA2	.108	- .099	- .062	.923
SMA3	.101	- .085	- .071	.913
SMA4	.093	- .105	- .074	.910
SMA5	.086	- .100	- .097	.901
SMA6	.137	- .049	- .054	.713

Table 8. Additional Validity Discriminant Measurement Results Based On HTMT

	Difficulty learning	Learning potential	Social environment	Social media activity
Difficulty learning				
Learning potential	.286			
Social environment	.183	.331		
Social media activity	.141	.102	.088	

In the publications of Henseler et al. and Hair et al., the recommended value must be below 0.9. At the same time, the HTMT criteria must be less than 1.00 (Henseler et al., 2015). Discriminant validity on each variable has good results explaining that each constructor variable in the developed model has different characteristics. Several results on the measurement model show that the developed instrument has good characteristics to explain the model. So that after the measurement, the model has been carried out, and the results are reasonable, it can be continued by conducting a structural model analysis.

Findings / Results

The study's results were to test the research hypothesis by evaluating the structural model. Furthermore, an evaluation of the structural model will explain the relationship between the influences of variables based on the developed model.

In the process of evaluating the structural model, it can be seen about the path coefficient and the significance value of the path size. For information about the path coefficient and the t-value, see Figure 3.

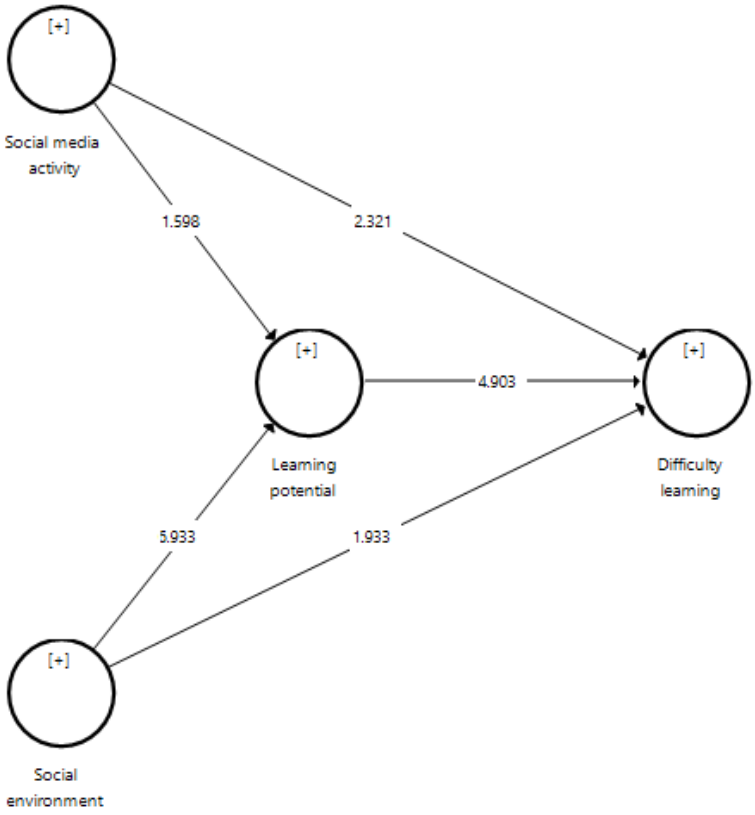

Figure 3. The Final Structural Model Analysis with t-statistic

Each relationship in figure 3 shows that the relationship is significant. It indicates that the developed model has a good relationship between variables. Then to see the magnitude of the influence, table 9 describes it in detail.

Table 9. Bootstrapping Result of Hypothesis Testing

	Path Coeff	Sample Mean	Standard Deviation	*t* Statistics	*p* Values	Decision
Learning potential -> Difficulty learning	- .242	-0.246	0.049	4.903	.000	Significant
Social environment -> Difficulty learning	- .09	-0.092	0.047	1.933	.049	Significant
Social media activity -> Difficulty learning	.102	0.101	0.044	2.321	.021	Significant
Social environment -> Learning Potential	.317	0.319	0.046	6.933	.000	Significant
Social media activity -> Learning Potential	- .071	- 0.075	0.044	1.598	.111	Not significant

Table 9 presents information about the significance of a relationship or research hypothesis. The analysis results show four accepted hypotheses based on significant results and one rejected hypothesis based on not significant results. The accepted hypothesis indicates that the variables that are the factors of learning difficulties during the pandemic are directly influenced by learning potential, social environment, and social media activity. The social environment also indirectly affects the learning potential that causes student learning difficulties during the pandemic. While the rejected hypothesis is that there is an indirect influence between social media activity through learning potential and students' learning difficulties which are not significant.

Table 10. Bootstrapping Result of Effect

Factor	Determinant	Direct	Indirect	Total Effect
Difficulty learning	Learning potential	4.903	0.000	4.903
	Social environment	0.216	3.684	3.900
	Social media activity	1.327	1.453	2.780
Learning potential	Social environment	6.933	0.000	6.933
	Social media activity	1.598	0.000	1.598

Coefficient of the Determinant (R squared)

The coefficient of determination or R-squared is often used to measure the structural model and determine the predictive model's strength through the factors described. The R-squared value ranges from 0 to 1; the high value indicates a greater level of predictive accuracy, whereby .75, .50, and .25 indicate substantial, moderate, and weak values. For example, the proposed model in this research successfully described the variance of factors in social media activity and social environment to difficulty learning at the elementary level by obtaining 75.8%. Table 9 shows the results of the R-squared analysis.

Table 11. Coefficient of Determinant

	R Square	R Square Adjusted	Decision
Difficulty learning	.787	.782	Substantial
Learning potential	.509	.506	Moderate

Discussion

This study highlights the exploration of factors that influence students' learning difficulties during the pandemic. The factors discovered are learning potential, social environment, and social media activity. Those three factors are assumed to influence students' learning difficulties. In line with that, the research findings reveal that the social environment influences learning difficulties. Students experience learning difficulties caused by anthropogenic social and environmental conditions that do not support students in learning. The family environment influences children's learning difficulties (Liang & Li, 2019). The other studies confirm that the classroom environment, family problems, conditions of the study room, longing for family and hometown, activity in organizations, and social environment cause external learning difficulties. (Setiawaty & Tjahjono, 2019). During online learning, complex environmental conditions at home and social problems represented by a lack of communication and interaction with teachers and friends often occur (Al-Baadani & Abbas, 2020; Coman et al., 2020; Mishra et al., 2020; Yang, 2020). Distractions when studying at home, such as the noise made by family members or neighbors and the lack of adequate learning facilities, also affect students' concentration levels when studying online (Coman et al., 2020). Some relevant research results confirm that

the student environment is very influential in overcoming learning difficulties. The learning environment is quite broad, starting from the context of the house, school, class, and its conditions.

In addition to influencing learning difficulties, the study results also discover that the social environment influences learning potential. The social environment is one of the vital developmental factors proposed by psychological theories of giftedness, and one of the theories of giftedness is learning potential (Mudrak et al., 2020). Levine et al. (2020) said that many children were neglected by their parents during the pandemic. Most of them do not support children's activities or involve children during the pandemic because they are busy handling the workload at home, so the absence of support from the anthropogenic social environment will affect children's learning potential.

Other findings show that social media activities also influence learning difficulties. Social media positively impacts adolescents in improving their academics, which can help overcome learning difficulties. Relevant research explains that students at risk of digital media addiction have learning difficulties (Seomun & Noh, 2021; Yusron & Sudiyatno, 2021). It reinforces the study's results that there is a positive relationship between social media activity and learning difficulties. Other studies explain that increased digital literacy due to social media activities can help offset student learning difficulties (Apriyanto et al., 2021; Hoerniasih & Nuraini, 2020). As we already know, using social media during a pandemic is unavoidable for educational and outside educational purposes. As we can see, social media has become a bridge for individuals to stay connected virtually without fear of being exposed to the virus (Daly et al., 2020). However, when social media is intentionally used as a 'medicine' to deal with loneliness and anxiety during a pandemic, it can unintentionally become a 'poison' that can change our other habits (González-Padilla & Tortolero-Blanco, 2020; O'Keeffe & Clarke-Pearson, 2011). In addition to adversely affecting daily activities, social media also has an impact on learning difficulties. Coman et al. (2020) argue that students can be easily distracted, lose focus, or miss deadlines when learning online. It becomes a factor that causes significant learning difficulties in students and their poor learning potential.

Although social media activities influence learning difficulties, the study results show that social media activities do not affect learning potential. Social media use should be encouraged in learning and teaching processes in higher education institutions (Al-Rahmi et al., 2018). Many studies state that social media provides good opportunities for students in the scope of online education in terms of academic collaboration, access to learning content, skills development, and access between students and teachers despite physical limitations (Ansari & Khan, 2020; Castro, 2014; Gikas & Grant, 2013). Therefore, although high social media activity causes significant learning difficulties, it allows the emergence of student learning potential even though it is not too significant. It happens because some students' use of social media is intended for entertainment and learning media. They utilize social media to support their learning activities, whether to develop a broader understanding, find other examples, seek other cases, and other reasons. Through additional research, one example of the wise and educational use of social media, Twitter, can affect student learning outcomes (Junco et al., 2011; Osatuyi & Passerini, 2016; Tur & Marín, 2014). Instagram is a more effective social media platform for engaging and learning (Abdulaziz Al Fadda, 2020). It reveals that social media influences students' potential to learn. However, what needs to be considered is the policy on using social media.

Other findings also state that learning potential influences learning difficulties during the pandemic. Students learning potential is characterized by psychological aspects affecting their learning difficulties (Nupiah et al., 2022). Learning difficulties are an unavoidable part of the learning process based on learning potential (Lodge et al., 2018). Therefore, it is a concern that students' learning potential is characterized by psychology and learning processes that influence learning difficulties. The higher students' potential to learn contributes to the higher students' capability to overcome barriers and obstacles in the learning process. The learning potential expected to arise during online learning in the pandemic era significantly affects overcoming student learning difficulties. It is because one of the things that determine the learning potential in each student's learning style (Atara Isra et al., 2022; Pratama & Pinayani, 2019). All kinds of learning styles, such as auditory, visual, audiovisual, and kinesthetic, are rarely facilitated by educators during online learning. Educators more often present learning content in the form of visuals and audio-only so that students are indirectly forced to adopt this learning style.

As a result, there has been a change in how students learn and educators teach during the pandemic (Aldiyah, 2021). However, not all students are suitable for this learning style. The delivery of learning content from educators that is not to each student's learning style will make it difficult for them to learn. For example, students with a visual learning style will pay attention to the lecturer when explaining the material using image media, auditory students will tend to only listen through the voice or song given by the lecturer during learning, and kinesthetic students prefer learning through practical activities. Therefore, high learning potential is significant in overcoming student learning difficulties.

Conclusion

As previously explained, many factors can initiate learning difficulties, but we focus on new variables that are felt to be very influential. The results of this study indicate that students with high social media activity and learning styles not adequately accommodated during the pandemic are the leading causes of significant learning difficulties for students. Social media activities, primarily utilized to cure loneliness and anxiety due to the pandemic, gradually become the

cause of learning difficulties when students cannot control their social media activities wisely. Other factors, such as the lack of support for the anthropological social environment of students, can also lead to poor learning potential, which in turn has an impact on student learning difficulties. A noisy family environment, unsupportive learning facilities, and lack of support from parents and friends are other causes of the decline in the quality of student learning. In addition, although the use of social media by students outside of educational purposes is relatively high, students also use social media for learning purposes. Thus, students' high social media activity does not cause the potential for lousy learning to be too significant. In other words, using social media in online learning can provide many futuristic learning opportunities for students.

Recommendations

The detection of learning difficulties based on learning style factors, social media activities, and the anthropomorphic social environment of students that has been carried out can be the basis for providing better education in the post-pandemic period. Therefore, as someone engaged in teaching, further research is expected to provide a more transparent framework for preparing post-pandemic learning by referring to the results of this study so that post-pandemic learning can solve these difficulties. The solution can use modifications of learning strategies, learning models, assessment processes, and many others. In addition, we need to pay attention to moderate variables such as gender. We argue that this gender variable has had an impact I similar studies as well. Therefore, the recommendation is to add a gender variable to it.

Limitations

This research is limited to certain subjects. Therefore, it makes it possible for the results of this study to be different when the instrument is given to various subjects. However, these results can be used as a reference for college students. Therefore, there is a need for in-depth information on whether gender, socioeconomic, and parents' educational background as a moderate will influence the results.

Authorship Contribution Statement

Setiasih: Conceptualization & design. Nandi: Editing & supervision. Rusman: Data acquisition & analysis. Setiawardani: Writing/drafting manuscript. Yusron: Writing, analyzing, translating & critical revision of the manuscript.

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