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Online Learning Readiness among Junior High School Students

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ABSTRAK

Pembelajaran secara daring telah membantu para pelajar untuk tetap dapat belajar di situasi sulit, seperti pandemi. Kesiapan belajar daring dapat dijelaskan melalui tiga dimensi: (1) preferensi, (2) kompetensi dan kepercayaan diri, serta (3) kemampuan belajar mandiri. Penelitian ini bertujuan untuk menganalisa kesiapan belajar daring siswa-siswi sekolah menengah pertama menggunakan pengukuruan kesiapan belajar daring (OLRS), terutama pada ada tidaknya perbedaan kesiapan belajar daring antara siswa dan siswi menengah pertama. Penelitian ini melibatkan 116 murid kelas 8 (52 perempuan dan 64 laki-laki) salah satu sekolah madrasah swasta di Jakarta Utara. Hasil penelitian ini menunjukkan bahwa mayoritas siswa cukup siap dalam belajar daring. Uji *independent samples t-test* tidak menunjukkan adanya perbedaan yang signifikan dalam kesiapan belajar daring antara siswa dan siswi. Kesiapan belajar daring cenderung dipengaruhi oleh dimensi (2) dan (3). Penelitian ini merekomendasikan kesiapan belajar daring dapat berjalan lancar dengan memperhatikan motivasi intrinsik pelajar, akses jaringan internet, serta perangkat belajar daring.

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Abstract

Online learning has been helping students to access education in difficult situation, especially during the pandemic. Online learning readiness could be described through three dimensions: preference, beliefs and competence, and self-directed learning. The aim of the current study was to investigate the online learning readiness of junior-high-school students using the Online Learning Readiness Scale (OLRS). Specifically, the study examined whether there was a difference in terms of online learning readiness between eighth-grader female and male students. A sample of 116 8th graders (52 females and 64 males) from a private madrasah school in North Jakarta were used as participants in the study. The results show that most of the students were moderately ready for online learning. Based on a simple independent samples t-test, the results did not establish a statistically significant difference in online learning readiness between male students and female students. The results of the analysis showed that online learning readiness seemed to be more significantly affected by self-directed learning and computer self-efficacy, which had higher mean scores. We recommend, therefore, that online learning readiness may work well by paying attention to the intrinsic motivation of learners and access to the internet, as well as online learning tools.

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1. INTRODUCTION

Online learning has risen in prominence in education during the COVID-19 pandemic. Governments in many countries have pushed for the use of online learning as a means for containing the spread of the COVID-19 pandemic. The use of online learning also helps ensure the

seamless running of school calendars as it helps avoid school closures and disruptions of academic calendars (Sungur-Gül & Ateş, 2021). Online learning also benefits students in several ways. It helps students to actively plan their own learning by choosing the time and place that is best suited for their learning (Pham & Dau, 2011). In addition, students from places distant from their school do not have to travel to their schools to access education. Rather, they can study across boundaries with ease and at a reduced cost due to the reduced need for costs such as travel and accommodation that would be incurred by travelling to their schools (Tang et al., 2021). In addition, with online learning, students to not have to navigate the travel restrictions characteristic of the COVID-19 pandemic to access education (Chaturvedi, Vishwakarma & Singh, 2021).

Online learning has been implemented in Indonesia since the 1980s as one way of enhancing educational equality (Darmayanti, 1993). Some scholars have argued that the implementation of online learning in Indonesia has, to some extent, been a success. Hadriana et al. (2021), for example, mentioned that the planning, monitoring and evaluation of online learning in Indonesia is done appropriately. However, other scholars argued that more can be done to improve online learning Indonesia. For instance, Padmo and Ardiasih (2020) argued that teachers' online teaching skills need to be enhanced. This view was corroborated by Berlianto and Santoso (2018), who stated that more suitable online learning methods and strategies are needed for teachers to teach more effectively online. The convenience of internet connections is also cited as another area requiring improvement in order to improve the effectiveness of online learning (Sihombing & Fatra, 2021).

The readiness of students for online learning is a key determinant of the success of online learning (Pham & Dau, 2011). It determines the attitudinal and behavioural responses of students to online learning, and it is, therefore, a crucial input into the learning process (Bovermann et al, 2018). Prior studies have mostly focused on external determinants of readiness of students towards online learning. One of the most prominent external determinants of online learning readiness is technical issues with the usage of online learning applications (Sihombing & Fatra, 2021; Anam & Rusydiyah, 2021; Apriliana, 2021; Firmansyah & Minandar, 2021; Hidayati, 2021; Zuhri, et al., 2021; Purwantoro, et al., 2021). Students who face technical issues with the usage of online learning applications tend to be less reluctant to engage themselves in online learning (Srimulat et al., 2022). However, research in traditional offline learning has indicated that learning readiness is not entirely shaped by external factors, but also by individual factors such as personal beliefs and competence (Hoban et al., 2005). Consequently, this study examines whether individual factors determine online learning effectiveness.

Learning readiness refers to the physical, emotional, behavioural, linguistic and cognitive preparedness of a learner before he/she receives a formal education (Millians, 2011). Since the pandemic began in 2019, online learning has had to be conducted and many researchers have investigated whether the students or teachers are ready with this learning approach. These studies have mostly relied on evidence from students who have already experienced online learning, rather than those who are yet to experience it (Sihombing & Fatra, 2021; Anam & Rusydiyah, 2021; Apriliana, 2021).

Warner et al., (1998) proposed a conceptualisation of online learning readiness that had three dimensions: preference, beliefs and competence, and self-directed learning. McVay (2000) developed an instrument to quantitatively test the concept. Hung et al. (2010) then made it more complete by including and highlighting the technical and internet aspect, which is more relevant with the current situation of online learning. The instrument is commonly called Online Learning Readiness Scale (OLRS). This scale has also been used by several studies (e.g., Zou, et al., 2021; Magogwe et al., 2022, Halim et al., 2022; Srimulat et al., 2022).

Preference refers to the tendency of learners to choose which delivery mode in learning fits them (Warner et al., 1998; Magogwe et al., 2022; Halim et al., 2022). Preference in online learning readiness of learners is mainly about whether they favour online delivery mode in learning rather than the traditional face-to-face method (Warner, et al., 1998). It may be seen as the learners' tendency to perform self-managed learning and to accept how education is delivered in a flexible

way (Smith, 2005). Preference is important since learners' low preference would show a low level of self-confidence in online learning (Kabir, et al., 2022).

Beliefs and competence refer to the confidence in using computers or the internet, beginning with the acceptance of the technology, the accessibility of the technology (Davis, 1989; Zou et al., 2021; El-Gayar et al., 2011) and the accessibility of the internet (Anene et al., 2014). These factors matter as they help enhance student participation (Widjaja & Chen, 2017; Tang et al., 2021). Individuals' beliefs are important matters related to one's expectations and competence in doing some tasks (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996; Engin, 2017). One's beliefs and confidence in their ability to use the internet and computer are considered internet self-efficacy and computer self-efficacy (Hung, et al., 2010; Engin, 2017). This sense of confidence may affect the way an individual accesses the information while learning. Technology, learning and social interaction are the three factors that affect the confidence of individuals about online learning (Engin, 2017).

The last dimension, self-directed learning, refers to the student's own drive and initiative for learning (Warner et al., 1998; Halim et al., 2022; Mai, 2022). Motivation, especially intrinsic motivation is the most significant part that helps learners maintain the learning behaviour to achieve their study goals (Garrison, 1997). Intrinsic motivation can be understood as doing activities for private matters, such as the feeling of being challenged and deriving fun from the activity (Ryan and Deci, 2000). Albelbisi and Yusop (2019) also found that positive motivation affects learners' self-learning process. It is also believed that this is a major contributing factor to online learning effectiveness (Mai, 2022; Prihastiwi, et al., 2021), and it helps shape learners into lifelong learners (Tekkol & Demirel, 2018). Motivation has been found to have a positive correlation with online learning methods, which can affect the learning outcomes of students (Moreno-Guerrero, 2020; Albelbisi & Yusop, 2019; Agustiani, et al., 2021). Halim et al. (2022) also found that motivation is an important indicator of students' learning readiness. Other studies also consider motivation in relation to investigating further students' online learning readiness (Naji, et al., 2020; Cingdem & Yildirim, 2014; Ramadhana, et al., 2021). Widjaja and Chen (2017) found that highly motivated learners tend to participate more in online discussions, yet high participation did not cause an increase in learners' extrinsic motivation. Highly motivated learners also put more effort into learning subjects, unlike learners who have lower motivation (Widjaja & Chen, 2017).

Previous research has also attempted to examine whether online learning readiness differs with respect to gender. However, the findings of the previous studies on gender differences in online learning readiness are inconsistent. Chung, et al. (2020) revealed that female students tend to have a higher level of readiness than male students because they are more willing to connect with their peers virtually through the educational processes. Conversely, Firat and Bozkurt (2020) found that male students had a higher level of readiness compared to female students, owed to their higher technology efficacy. Another study (Magogwe et al., 2022) found that there are no significant differences between the female and male students' readiness, due to the increasing elimination of stereotypes that create disparities in attitudes towards education between male and female students (Dangol & Shrestha, 2021). Given these inconclusive findings, this study, aimed to empirically examine whether gender has implications on online learning effectiveness in the Indonesian context.

Prior research on readiness for online learning has mostly been contextualised within the higher education sector (Atkinson, 2009; Chung et al, 2020; Hung et al., 2010). However, students at different levels of education differ in terms of their cognition and consequently their attitudinal receptiveness to changes in their educational systems (Fong-Silva, et al., 2017). Older students are more willing to do additional information search after lessons, are more willing to accept new methods of teaching and are generally more positive in their evaluations of new learning methods (Sidmonds & Brock, 2014). Younger students, on the other hand, tend to have more personal and social gains compared to their older counterparts (Arnold et al., 1993). Given the differences in reactions to new learning methods among student of varying ages and the need to examine online learning readiness of students from education levels other than the university level (Magogwe, et

al., 2022; Chung, et al., 2020; Halim et al., 2022; Mai, 2022), this study adds to the literature on online learning readiness by examining high school students, on which relatively less online learning readiness research has been conducted. Because English is taught at all levels of education in Indonesia and is regarded as one of the most important foreign languages in Indonesia (Abrar et al., 2018), this study primarily focuses on English learning. In sum, the current study addressed the following research questions:

1. To what extent were junior high school students ready for online English education during the pandemic situation?
2. Are there any differences between male and female students' readiness in online learning?

By examining the factors driving the online learning readiness among students and differences in online learning readiness among students of different genders, this study provides important insights to stakeholders on how to develop better strategies for enhancing students' readiness for online learning.

2. METHODS

This research employed a cross-sectional design of quantitative design. The participants were 8th graders from a private madrasah school in North Jakarta, with a total of 116 students. They were 52 female and 64 male students who were between 13 and 16 years old. The participants were gathered based on a non-probability convenience sample since this made it easier for the researcher to reach the participants and due to the short amount of time the researchers had in conducting the research. To answer the research questions, the Online Learning Readiness Scale (OLRS) from Magogwe et al. (2022) was be used. The validity and reliability of this scale have been calculated by Hung et al. (2010). The Indonesian language of each item in the questionnaire is provided, just in case the participants do not understand some English vocabulary in the questionnaire. This scale measured the readiness through computer/internet self-efficacy, self-directed learning, learner control, motivation for learning, and online communication self-efficacy. Magogwe et al. (2022) added one more item to measure behavioural intention, which is the willingness of learners to continue using this online learning method. This item was included because it covers the first dimension of the readiness theory proposed by Warner et al. (1998), which is about preference. All of the participants received 19 items in total with 5-scale option, from strongly agree to strongly disagree. Figure 1 represents the connection between the dimensions of OLRS and the theory of readiness respectively. The first dimension, computer/internet self-efficacy, was measured by three items, self-directed learning had five items, learner control had three items, motivation for learning had four items, online communication self-efficacy had three items, and behavioural intention had one item. All items were measured on 4-point measurement scales.

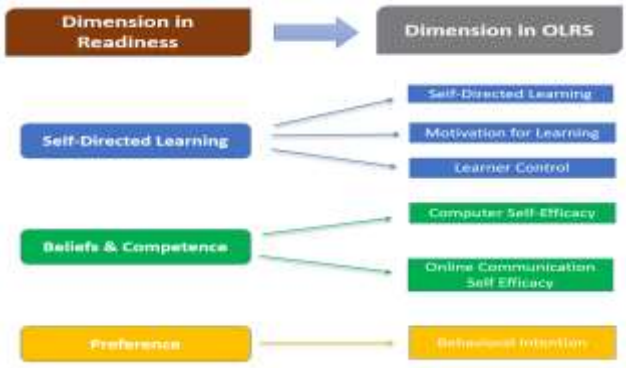


Figure 1. The Connection of the Dimensions between The Theory and The Instrument

The data were analysed using Microsoft Excel and SPSS 25. The average number of the 19 questions from each participant were counted to know the level of their readiness for online learning. A greater number indicates that the students are more ready for online learning. Since a 4-point scale was used, Level 1 indicated not being ready for the online learning, Level 2 indicated

a low level of readiness for online learning, Level 3 indicated moderate readiness, and Level 4 represented the maximum readiness of students for online learning. The readiness of all participants was counted, and the percentage of each level of readiness among the participants was presented in a pie chart. The answers based on each dimension (self-directed learning, belief and competence, and preference) were also analysed using Microsoft Excel.

Next, the study also established whether there were differences in the levels of readiness in online learning between female and male students. A simple independent samples t-test was performed to investigate this matter. Since this study had more than 50 participants, it was acceptable (valid) to perform the simple independent t-test because the data was not normally distributed. The descriptive statistics were obtained by comparing the male students and female students, and they helped show the level of readiness between the two groups (female students and male students) along with their standard deviations (SD). The SD showed whether the calculated numbers were widely spread (less reliable) or were clustered around the mean score (more reliable). After the table of simple independent samples t-tests was obtained, the focus was on the on the significance levels. Significance levels of below 0.05 indicated significant differences in the multi-group data.

3. FINDINGS AND DISCUSSION

This study investigated each student's mean score for each item on every dimension in OLRS.

Table 1. Mean Score and Standard Deviation Value of Each Item.

Dimension in Readiness	Dimension in OLRS	Question Number	Mean	Standard Deviation
Self-directed Learning	Self-directed Learning	5	3.27	0.70
		6	2.89	0.66
		7	2.87	0.72
		8	3.14	0.79
	Learner Control	4	2.87	0.79
		9	2.87	0.74
		10	2.33	0.91
		11	3.07	0.64
	Motivation for Learning	12	2.80	0.80
		13	2.66	0.88
		14	3.08	0.71
		15	2.84	0.76
Belief and Competence	Computer / Internet Self-efficacy	1	2.61	0.72
		2	2.86	0.71
		3	3.23	0.77
	Online Communication Self-efficacy	16	2.94	0.81
		17	2.88	0.76
		18	2.79	0.80
Preference	Behavioral Intention	19	2.48	1.10

Table 1 presents students' mean scores and standard deviation on six subscales. The students' average scores range from 2.33 to 3.27 on a 4-point rating scale, meaning that the students exhibited moderate levels of readiness toward online learning. In other words, most the students were moderately ready to encounter learning activities during online learning. However, on the dimension of learner control on number 10 the students were distracted by other online activities while learning online. Moreover, on the last dimension, the answers of students on number 19 were heterogeneous due to the standard deviation score of 1.10, indicating that half

of the students are willing to continue learning in online mode, but the rest of them preferred going back to the school.

Table 2. Mean Score and Standard Deviation Value of Each Dimension.

Dimension in Readiness	Dimension in OLRS	Question Number	Mean	Standard Deviation
Self-directed Learning	Self-directed Learning	5	3.21	0.83
		6		
		7		
		8		
	Learner Control	4	2.76	0.56
		9		
		10		
		11		
	Motivation for Learning	12	2.84	0.53
		13		
		14		
		15		
Belief and Competence	Computer / Internet Self-efficacy	1	2.90	0.52
		2		
		3		
	Online Communication Self-efficacy	16	2.87	0.65
		17		
		18		
Preference	Behavioral Intention	19	2.48	1.10

Based on Table 2, the students also performed at a moderate level of readiness for online learning. The moderate level of readiness derives from average scores ranging from 2.48 to 3.21. This finding means that the current study's sample of junior high school students had the highest score on the dimension of self-directed learning, implying that the students were able to direct their own learning process and were responsible for the planning, undertaking, and reviewing aspects of their learning process during online learning (Moris, 2019; Morris & Rohs, 2021). On the other hand, the dimension of behavioral intention is the lowest score among other dimensions in OLRS, indicating that half of the students accepted the flexible delivery and distance education (Smith, 2005), and the rest of them had a low preference for which they were not confident in online learning (Kabir, et al., 2022).

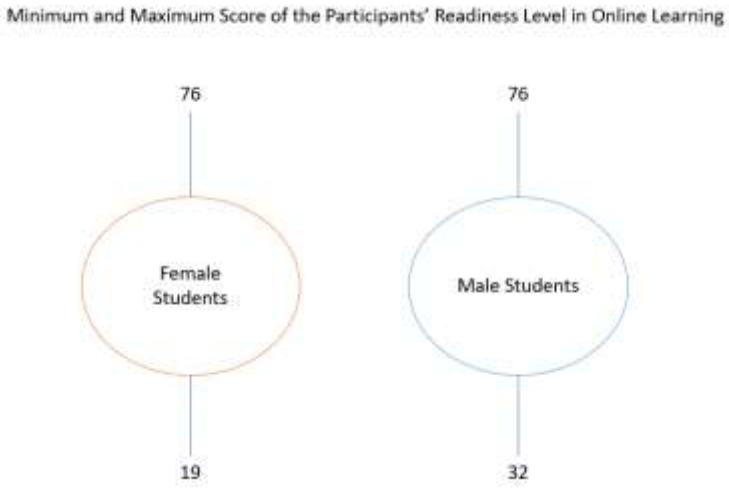
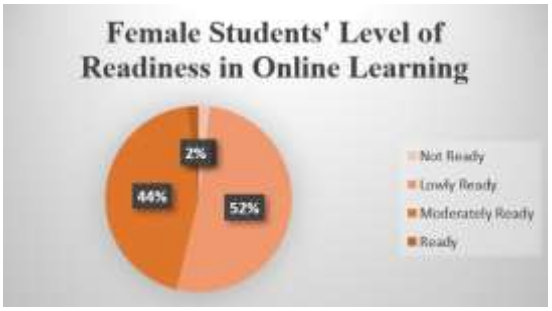


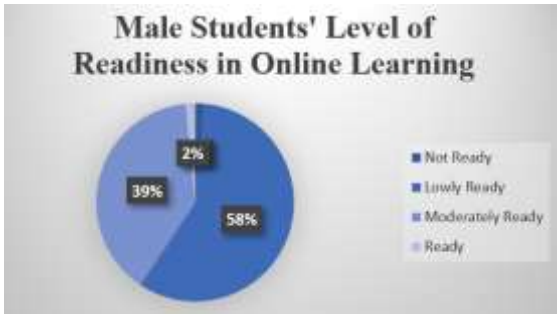
Figure 2. Minimum and Maximum Score of the Participants' Readiness Level in Online Learning

Based on Figure 2, one female student and one male student achieved the full score of the OLRS, which means both were fully ready to face the online learning situation. Female students had slightly higher mean scores than male students, but the lowest score of the OLRS was also from a female student. One female student who got the lowest point (19), and 32 was the lowest point overall of the male students' participants.

(a)



(b)



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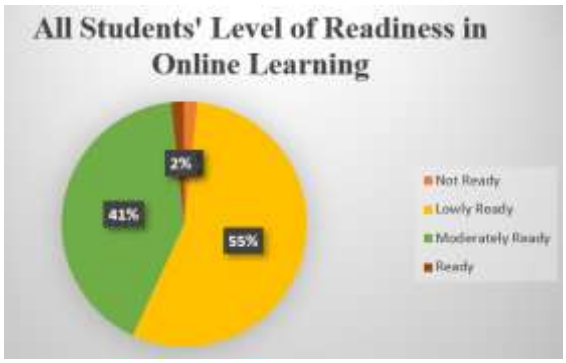

Figure 3. Pie Chart of Level of Readiness in Online Learning: (**a**) Female Students' Level of Readiness in Online Learning; (**b**) Male Students' Level of Readiness in Online Learning; (**c**) All Students' Level of Readiness in Online Learning

Figure 3(a) shows the level of readiness among female students in online learning in junior high school. Based on table 4, the pie chart above shows that the female students were predominantly at level 2 ranging 52%, indicating that most of the students were lowly ready to learn in online mode. followed 44%, some female students were moderately ready for online learning and 2% of the students were not ready for online learning. Figure 3(b) reveals the level of readiness during online learning among male students in junior high school. According to the pie chart, 58% of students were at level 2, indicating that the majority of the students were lowly ready for online learning. 39% of the students were moderately ready for online learning and 2% of the students were not ready and highly ready for online learning. Based on Figure 3©, most of the participants were in the level of "Lowly Ready" and "Moderately Ready". It means that the students were mostly in the Level 2 and Level 3 of readiness in the online learning context. The discrepancy between both levels is 14%. The chart above also shows that the discrepancy among female students (8%) is lower than the male students (19%).

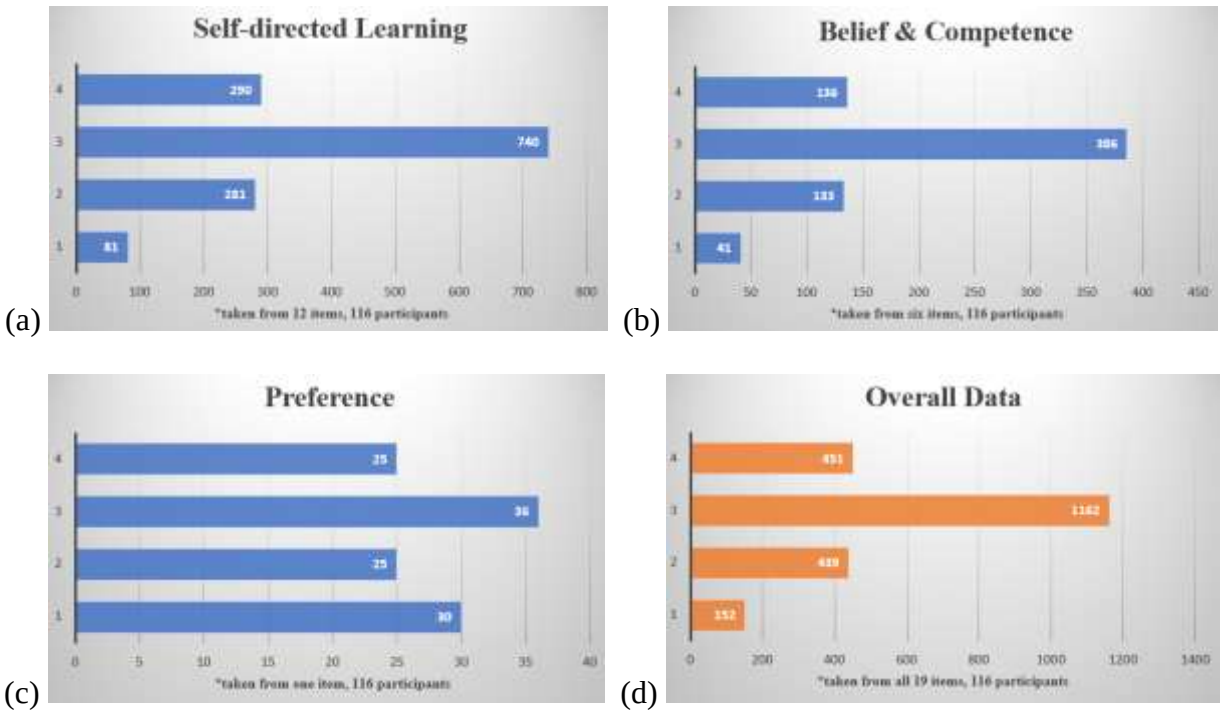

Figure 4. Bar Chart of The Answers from each Dimension of Online Learning Readiness Theory (Warner, et al., 1998): (**a**) Self-directed Learning; (**b**) Belief & Competence; (**c**) Preference; (**d**) Overall answers

Figure 4(a) illustrates the frequency of answers on self-directed learning. The bar chart shows that level 3 has the highest score among other levels of self-directed learning, indicating that most junior high school students were able to direct their own learning process until task accomplishment (Moris, 2019). Figure 4(b) presents the score level of readiness in terms of beliefs and competence. Based on the chart, level 3 has the highest score among other levels of readiness in belief and competence, indicating that the students were capable of using tools such as computers and the internet during online learning (Hung, et al., 2010; Engin, 2017). Figure 4(c) presents the last item of dimension in readiness, namely preference. The result reveals that level 3 of readiness is still the highest score among other levels of readiness, indicating that most students preferred learning in online rather than offline (Warner, et al., 1998). Figure 4(d) presents the frequency of answers for each dimension in the OLRS. The number on the left represents the level of readiness in online learning. Based on the table above, the participants were mostly moderately ready to face the online learning setting.

Table 3. Overall mean score (level of readiness) between female (Perempuan) and male (Laki-Laki) students

Gender	N	Mean	Standard Deviation
Male	64	2.86	0.38
Female	52	2.88	0.51

Based on the table above, the mean score of each group tends to be clustered around the mean (not too widespread) since both of the standard deviation values are close to zero and do not exceed 2.00.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
MEAN	Equal variances assumed	3.351	.070	-.244	114	.808	-.02014	.08261	-.18379	.14351
	Equal variances not assumed			-.237	92.866	.813	-.02014	.08503	-.18899	.14871

Figure 5. Independent samples t-test results

Based on the result of the simple independent t-test table, the numbers show that there is no significant difference between the two groups (male students and female students) in terms of online learning readiness. The mean score from both groups shows a 0.02 difference, which is not very substantial.

Regarding the results of the t-test, no significant differences may be understood that females and males have the same level of readiness toward the online learning situation they encounter. The results corroborate the findings of previous studies (Magogwe, et al., 2022) that there were no significant differences in online learning readiness across genders.

On the other hand, insignificant results might be the answer the school would like to hear since it can be proved that students of all genders, were treated fairly by the teachers. In a nutshell, female and male students are at the same level of readiness in moderately ready, indicating that they tend to refuse online learning (Mai, 2022) due to half of them should adapt to technology as a learning instrument, such as computers and internet access (Engin, 2017).

4. CONCLUSION

The findings of this study provide insights into the factors that shape the readiness of high school students for online learning in Indonesia. Prior studies had mostly focused on examining the online learning readiness of university students, and such approaches provided limited insights into the factors that drive the readiness of students of different levels towards online learning. Generally, the findings of this study demonstrate that intrinsic motivation plays a key role in shaping the readiness of high school students for online learning. Therefore, it is important that measures are put in place that enhance the personal readiness of students for engagement in online learning. Such would help ensure that online learning, which is fast becoming a new norm in the increasingly tech-world, is a success for Indonesian high school students.

The findings of this study indicate that the students were moderately ready to engage in online learning. This study examined intrinsic predictors of readiness for online learning. Thus, the moderate readiness of the students for online learning may be attributed to moderate personal motivation of the students to take part in online learning. As such, it is important that teachers and educational authorities implement means that would help improve the internal readiness of students to engage in online learning. Measures that help improve the self-directed learning and computer self-efficacy of students could be put in place to enhance the desire and readiness of students for online learning. As earlier stated in this paper, the readiness of students for online learning does not only depend on intrinsic factors, but also on extrinsic factors. It is, therefore, important that means for extrinsically motivating students to ready themselves for online learning be put in place. For instance, internet should be made accessible for all students, and a reward system for well-performing students could be put in place. The combination of these factors could help improve the readiness of students for online learning, improve the personal receptiveness for online learning and subsequently boost the effectiveness of the online learning process among high school Indonesian students.

The findings of this study also demonstrate that there are no significant differences in readiness for online learning among male and female students. This result suggests that students

of both genders are equally confident in their efficacies for online learning, and for the systems that are in place to support online learning. It is important that measures are put in place to ensure that the lack of gender discrepancies in terms of readiness for online learning are maintained, as these would put students of one gender at a disadvantage, thwarting the very essence of egalitarianism in education.

This study was subject to several limitations that could hamper the relevance of its findings. First, the sample size was relatively small and was drawn from a single high school in Jakarta. The results may, thus, not be generalizable to students from high schools in other parts of the country. It is recommended that future research examines the framework examined by this study with a larger sample which is more representative of the geographic diversity of the country and the diversity in the types of schools in the country.

Secondly, research could examine whether the level of readiness could affect other variables in the students' learning process or their outcome, such as students' academic achievement. Furthermore, to make the findings more robust in the Indonesian context, further research could make a more valid and reliable adaptation of the questionnaire by entirely using Indonesian language.

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