Student Educational Resilience While Online Studying During the Covid-19 Period

*L Yarni*

1Department of Counseling and Guidance, Faculty of Tarbiyah and Teaching Sciences, Universitas Islam Negeri Sjech M. Djamil Djambe Bukittinggi, Indonesia

**ABSTRACT**

Covid-19 has caused changes in education aspect so that it is forced to learn online. This condition has made the world of Education in shock that has caused stress on students who are conducting online learning when they don't have the resilience to help themselves. This research is aimed at identifying the extent of educational resilience of students when they are conducting online learning during covid-19 as well as comparing the extent of educational resilience of man and woman students. This research employed a descriptive comparative quantitative approach. 807 Junior high school and senior high school students in Bukittinggi West Sumatra province were the respondents in this study. The result of this research has shown that the extent of educational resilience of students in online study has been in the high category with 89.10% (score 51-150). The comparative T-Test have shown that there was no distinction inside the educational resilience level of male and female students with the sig. 2 tailed higher than 0.05.

**INTRODUCTION**

Covid-19 has become a big challenge for the world of education so that online learning must be implemented. School in the pandemic era is very dependent on digital and technology-based learning resources (Yasir et al., 2022). Online learning demanding situations include technical, pedagogical, and social, economy and health challenges. Technical challenges related to technical issues such as limited internet access because the internet network is difficult to access, or unstable, difficult to download material, difficult to send assignments, and lack of electronic devices needed by students (students from middle to lower economic circles still do not have mobile phone). Pedagogical challenges include a lack of teacher and student skills in using technology (technology stuttering), lack of interactivity, lack of student motivation, lack of teacher social and cognitive presence (capacity to build that means thru intense conversation in learning), students' lack of understanding of lessons, teachers have difficulty making valid judgments and reliable, learning objectives are not achieved. Social demanding situations are includes less teacher-student interaction, less students and students interaction, less of physical space at house when online learning, and less of encouragement from father and mother because at the same time, they are also working from home in the same room and parents who do no longer recognize the nature of online mastering at domestic (Bestiantono et al., 2020; Mahyoob, 2020; Adnan, 2020; Fernando et al., 2020; Korkmaz & Toraman, 2020; Indrayadi et al., 2022; Alawamleh et al., 2022; Churiyah et al., 2020). Even though parental support when studying online during the Covid-19 era is much needed (Prayogo et al., 2022). The economic challenges for teachers and students which include high costs (Bahasoaan et al., 2020) because they have to buy internet packages every week. The health challenge includes eye health. The
eyes feel incredibly tired because during online learning they always look at the smartphone or computer screen (Yan et al., 2021).

Online learning can make students tired because many assignments must be completed and reported to the teacher every day. This affects student psychology (Rusandi et al., 2022). Students feel confused, anxious, frustrated (Dhawan, 2020), feel lonely (Alawamleh et al., 2022), bored, scared, and stressed (Susanto, 2021). Among the causes of psychological issues skilled with the aid of college students when studying online during the pandemic period came from teachers (Sakka et al., 2020). This is because the teacher also feels tired which has an effect on his psychology, physique, and capacity as a teacher such as less productivity, undeveloped teaching skills, irritability, and health problems (Osei et al., 2021). These conditions require the ability to survive, and adapt positively (academic resilience) because it will affect self-efficacy and achievement when learning online (Martin et al., 2021; Warshawski, 2022). The higher the students' instructional resilience, the greater they will be able to address educational burnout (Oyoo et al., 2018). Students who can adjust to learn online during the pandemic era and feature resilience will have confidence in their abilities (self-efficacy), have good learning achievements and can be better organized for online mastering.

Online learning requires readiness. Readiness to learn is readiness or willingness to learn (Soemanto, 2006). Online studying readiness will decide resilience. Individuals who are ready to online studying will decide their instructional resilience (stimulated, concentration, be autonomous, etc.) (Ramadhana et al., 2021).

Educational resilience is a pattern of positive adjustment to various kinds of difficulties encountered when participating in the learning process (Masten & Powell, 2003). Continue to feel fine when conditions are difficult (Snyder et al., 2011) in the learning process so that they can behave positively when studying online during the Covid-19 period such as staying focused, optimistic, having self-efficacy, being able to manage themselves (Hendriani, 2018). Instructional resilience is needed by students when participating in online learning to maintain developmental proper-being. Students who have high resilience will affect their psychology such as having the quality of life, mentally and physically healthy (Aldhahi et al., 2021), good mental well-being, they will be able to manage emotions caused by problems that arise during learning online (Eva et al., 2021), including facing the challenges of online learning as described above.

There are differences in resilience between male and female (Warshawski, 2022). Women tend to be more resilient than men (Hendriani, 2018). Female have higher resilience than male because of different sources of defense (protection) (Ferreira et al., 2019). Conversely, other studies have shown that male resilience is higher than female resilience (Rusandi et al., 2022).

Based totally on the historical past of the hassle above, the purpose of this research to decide the level of educational resilience of college students when mastering online on some stage in the pandemic period and to see the differences of the educational resilience of male and female college students when studying online during the pandemic period.

RESEARCH METHOD
This research method has used a comparative descriptive quantitative with a sample of 807 senior high schools (SLTA) and junior high school (SLTP) students in Bukittinggi, West Sumatra. The research instrument uses a resilience scale adapted from the resilience scale of Oshio, A., et al (2002). This scale consists of 21-item statements with two alternative answers (yes and no) and consists of three aspects, namely seeking new things, emotional regulation, and positive orientation about the future. The answer "yes" was given a score of 5, and a score of 1 for the answer "no".
Research Flowchart
Flow of research can be seen in Figure 1.

Descriptive statistics evaluation that has been used on this study to determine student educational resilience level when studying online during the pandemic era and t-test to look for differences in student educational resilience when on-line learning during the pandemic era. Descriptive data analysis is done by looking for percentages according to the following formula:
% = \frac{n}{N} \times 100\%

Description: % : percentage sought  
    \( n \) : the number of scores obtained  
    \( N \) : Total expected score

Validity Test
Pearson product-moment formula with the assist of SPSS software has been used to check the validity of the questionnaire. To find out whether the items in the questionnaire are valid or not, it can be known by comparing the \( r \) counts with the \( r \) tables and seeing their significance. When the \( r \) count number is extra than \( r \) table, it can be stated that the questionnaire objects are valid. When the significance is much less than 0.05, it could be stated that the questionnaire items are valid. When the significance is more than 0.05 it could be stated the questionnaire items are not valid.

After the validity check is executed, the consequences show that the significance value is less than 0.05. 0.05, and the Pearson coefficient is > 0.070. This shows that all of the questionnaire items are valid with a significance level of 0.05 (5%) for all statements.

Reliability Test
The Alpha Cronbach formula through SPSS used in testing reliability on the questionnaire that may be visible within table 1 below.

<table>
<thead>
<tr>
<th>Table 1. Reliability test result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach's Alpha</td>
</tr>
<tr>
<td>.743</td>
</tr>
</tbody>
</table>

The table illustrates that Cronbach's Alpha value in number 0.743. This number is in comparison to the \( r \)-table value with by number of respondents 807 people searched for the distribution of \( r \)-table values at a significance of 0.05 (5%), the \( r \)-table value of 0.070 is obtained. It can be concluded that this questionnaire is reliable and significant.

Analysis Requirement Test
Normality check
To look whether or not the data distribution is generally distributed or not, a normality test has been executed. Distribution of the data can be said to be normal when the significance value exceeds 0.05. Conversely, when the significance value is below 0.05, distribution of the data is said to be abnormal. Data normality testing was finished with the assistance of the SPSS software.

Homogeneity test
A homogeneity test has been executed finding a similarity of the data with the help of SPSS software. The data can be said to be homogeneous when the significance value exceeds 0.05. Conversely, when the significance value is below 0.05, it can be said that it is not homogeneous.

Hypothesis test
The research hypotheses are:

Ha: Educational resilience of men and woman college students when collaborating in on-line learning at some points of Covid-19 are differences
Ho: Educational resilience of men and women college students when collaborating in on-line learning at some points of covid-19 are not different
Testing the hypothesis used the t-test with the help of SPSS software to compare the mean educational resilience obtained by male and female students. If the significance value (2-tailed) is below 0.05, it could be concluded that there's a great distinction. Conversely, if the significance value (2-tailed) exceeds 0.05, it can be concluded that there's not a great distinction.

**RESULTS AND DISCUSSION**

**Results**
Student educational resilience level when they have participated on-line studying can be seen inside the table 2, figure 2, and figure 3 below.

<table>
<thead>
<tr>
<th>Academic Resilience Category</th>
<th>Score</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>51-105</td>
<td>719</td>
<td>89.10%</td>
</tr>
<tr>
<td>Low</td>
<td>0-50</td>
<td>88</td>
<td>10.90%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>807</td>
<td>100%</td>
</tr>
</tbody>
</table>

![Figure 2. Educational resilience level of student in online learning]

![Figure 3. Educational resilience level of student in online learning]

The tables and diagrams mentioned above have explained that the percentage of college students' educational resilience is 89.10%, this indicates that students' educational resilience is labeled as high, and the remaining 10.90% is in a low category.
Analysis Requirements Test Results
Normality test

<table>
<thead>
<tr>
<th>Table 3. Normality test</th>
<th>Kolmogorov-Smirnov</th>
<th>Shapiro-Wilk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Statistic  df  Sig.</td>
<td>Statistic  df  Sig.</td>
</tr>
<tr>
<td>Total educational resilience</td>
<td>Male  .083  362  .200</td>
<td>.982  362  .700</td>
</tr>
<tr>
<td></td>
<td>Female    .077  445  .300</td>
<td>.979  445  .600</td>
</tr>
</tbody>
</table>

Table 3 above explains that for the total Resilience score, which can be seen in both groups (male and female), the Kolmogorov-Smirnov score has a significance value of 0.200 and 0.300 (more than 0.05). This indicates that the statistics of the two groups are generally distributed. Likewise, the Shapiro-Wilk values, of which are significant (more than 0.05).

![Figure 4. Normality histogram of men](image)

From the figure 4, the total educational resilience value for the male group is in the shape of a mountain which describes a normal distribution.

![Figure 5. Normality histogram of woman](image)

From the figure 5, the total educational resilience value for the woman group is in the shape of a mountain which describes a normal distribution.
Homogeneity test

Table 4. Test of homogeneity of variances

<table>
<thead>
<tr>
<th>Levene Statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,703</td>
<td>1</td>
<td>805</td>
<td>.101</td>
</tr>
</tbody>
</table>

Table 4 can explain that the significance value of homogeneity is 0.101 (≥0.05) indicating that the total variable Resilience in the Male and Female groups is homogeneous, with Levene Statistic 2.703.

Hypotesis Testing

Table 5. The differences of educational resilience of student in general using independent samples test

<table>
<thead>
<tr>
<th>Levene's Test</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>for Equality of Variances</td>
<td>F</td>
</tr>
<tr>
<td>Total academic Resilience</td>
<td>Equal variances assumed</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>-590</td>
</tr>
</tbody>
</table>

Table 5 has shown that the significance value of the total value of male and female educational resilience is not different (> 0.05).

Table 6. Independent samples test

<table>
<thead>
<tr>
<th>Levene's Test</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>for Equality of Variances</td>
<td>F</td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>.022</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>-1,019</td>
</tr>
</tbody>
</table>

From the significance value (> 0.05), the total value of educational resilience in Aspect 1 (Search for New Things), Male and Female respondents are not different.
Table 7. Test of independent samples

<table>
<thead>
<tr>
<th></th>
<th>Levene's Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>Aspect 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances</td>
<td></td>
<td></td>
</tr>
<tr>
<td>assumed</td>
<td>9,127</td>
<td>.003</td>
</tr>
<tr>
<td>Equal variances</td>
<td></td>
<td></td>
</tr>
<tr>
<td>not assumed</td>
<td>.671</td>
<td>797,327</td>
</tr>
</tbody>
</table>

From the significance value (>0.05), the total value of educational resilience in Aspect 2 (Emotional Regulation), male and female respondents are not different.

Table 8. Test of independent samples

<table>
<thead>
<tr>
<th></th>
<th>Levene's Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>Aspect 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances</td>
<td></td>
<td></td>
</tr>
<tr>
<td>assumed</td>
<td>16,861</td>
<td>.000</td>
</tr>
<tr>
<td>Equal variances</td>
<td></td>
<td></td>
</tr>
<tr>
<td>not assumed</td>
<td>-2.415</td>
<td>685,751</td>
</tr>
</tbody>
</table>

From the significance value (<0.05), the total value of aspect 3 educational resilience (Positive Future Orientation), male and female respondents are different.

Discussion
The level of student educational resilience in online studying at some point of Covid-19 is in high category. There has been no distinction within the educational resilience of men and woman pupils when online studying at some point of Covid-19 after being tested on aspects of academic resilience together. When the aspects of educational resilience were tested separately, there has been no distinction within the educational resilience of men and woman pupils within the aspects of male emotion regulation and the search for new things. There is a difference in educational resilience (a positive orientation about the future) between male and female when studying online during the Covid-19 period.

Online learning in 2021 (when this research was conducted), Covid-19 has entered its second year. It can be assumed that students have started to adjust to online studying at some point of Covid-19 period, therefore students' educational resilience is high category. This end result is supported with the aid of the theory which says that resilience is the result of fortitude.
which is a combination of passion and perseverance that develops through the learning process. Difficulties, challenges, and pressures faced at any time can train resilience (Naidu, 2021). Educational resilience can be grown and developed if there is a desire to succeed and motivation (Ang et al., 2022). Therefore, after the pandemic lasted more than a year, individuals have learned and adapted to these conditions, including online learning.

According to behavioristic theory, behavior can be formed and accustomed through the operant conditioning method and shaping technique (Suryabrata, 2012). This is in step with the consequences of research that applies these methods and techniques to change students' off-task behavior into on-task behavior (Mahanani, 2017). Students who do not want to work on assignments change their behavior by conditioning students on certain tasks so that they are formed and accustomed to doing assignments.

The excessive stage of pupil instructional resilience in online learning throughout the pandemic that has been going on for one year, as shown by the results of this study can be caused by emotional intelligence (Ononye et al., 2022) learning readiness (Yilmaz, 2017) high teacher support (Pitzer & Skinner, 2017). Readiness in online studying includes self-directed learning, online communication, technology readiness, learner control, learning motivation (Ming et al., 2021; Chung E. et al., 2020). Related to this, it can be said that students' educational resilience is in the high category according to the results of this study because online learning has become a habit for students, they have emotional intelligence, have readiness and teachers provide support and finally conditions that initially become obstacles in studying online can be controlled.

The educational resilience of male and female pupils in studying online throughout the pandemic was found in this investigation no difference when all aspects of resilience were tested simultaneously. This is supported by research results which state that there has been no significant distinction between boy and girl in terms of scholastic ability and educational resilience (Rao & Krishnamurthy, 2018; Alkım & Ersoy, 2020; Nurtjahjanti et al., 2021) because during the pandemic students are forced to learn more initiative (Ming et al., 2021) so that both men and women try to keep up with online learning.

CONCLUSION
This study shows that the level of student educational resilience when learning online throughout the pandemic is in the excessive category. There is no difference in the educational resilience of boy and girl pupils when learning online throughout the pandemic when all aspects are tested together. Thus, the Ha is rejected and Ho is accepted. When tested separately, educational resilience showed no difference between male and female students when studying online throughout the pandemic in terms of emotion regulation and novelty seeking. There is distinction in the educational resilience of male and female students when studying online throughout the pandemic in terms of future orientation. This research has implications for policy makers in educational institutions, so that they do not hesitate to take and implement new policies on learning, when there are certain conditions that require the policy to be implemented. This study was conducted after 1 year of the pandemic, so pupils are accustomed to these conditions and already have resilience in participating in online learning. This is also a limitation of this study.

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*Author(s):*
*Linda Yarni (Corresponding Author)*
Department of Counseling and Guidance, Faculty of Tarbiyah and Teaching Sciences, Universitas Islam Negeri Sjech M. Djamil Bukittinggi, Jl. Gurun Aur Kubang Putih Agam Sumatera Barat, Indonesia
Email: lindayarni1978@gmail.com