

## The evaluation analysis of gender vocational students on traumatic experience in educational context

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### ABSTRACT

Students, including vocational school students, are vulnerable to traumatic experiences (TE). Students still look normal but experience stress that interferes with learning activities. TE can be observed through positive psychological attributes such as self-love (SL), compassion, gratitude, and happiness. This study aimed to explore the gender-specific views of vocational school students regarding their TE to provide results that can be the basis for the implementation of gender-differentiated interventions in schools. A cross-sectional survey using quantitative methods was conducted and involved 498 vocational school students in West Sumatra, Indonesia. Data were collected using questionnaires with reliability from the range of 0.74-1 through reliability analysis and also analyzed in a multi-group setting through structural equation model (SEM) on SmartPLS 3 application. Importance-performance map analysis (IPMA) method was also used to assess the functionality of variables in the study. The results showed that positive psychological attributes interact, relate, and have a role in the TE of vocational students, including in the evaluation of gender analysis. The results of the study can be a reference to reduce the impact of TE for vocational students, especially by gender-specific vocational schools. For future research, TE can be studied with other positive psychological attribute variables over a longer period of time.

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## 1. INTRODUCTION

Traumatic experiences (TE) have become a topic of discussion in the educational world recently due to their impact on the practice of educational programs in schools. Traumatic events experienced by students become one of the factors that inhibit the implementation of the learning and teaching process at school [1]. Although inhibiting, identifying and understanding students with TE are challenging [2]. This occurred due to the students with TE looked like normal students but experienced a very stressful condition and had an impact on physical, cognitive, mental, emotional and in some cases made students depressed [2], [3]. This leads to difficulties in completing learning tasks, failure to achieve learning goals and leads to learning failure [2], [4]. This condition becomes more urgent to get deeper attention for students in vocational schools, because learning objectives in vocational schools are not only related to the mastery of insight and knowledge, but also related to practical skills which are a prerequisite for developing students' work readiness to compete in the industrial and business world [2], [5], [6].

Students' TE could be caused by various things outside of themselves, including the school environment [7]. Cases of teenage delinquency committed by students, failure in learning and low level of competitiveness of students, especially students in vocational schools, are a series of events that are predicted to be due to the TE of students who continuously struggle with stressful conditions and often cause depression [8]–[10]. TE are associated with strong negative emotions such as shame, helplessness, fear, and feeling threatened by various physical, mental, and emotional events [2], [11]. TE will caused symptoms in thoughts, emotions, and actions [2]. Previous research described several symptoms of TE that generally appear in a person, including students at school, such as being overshadowed by the traumatic event, low hope for the future, negative thinking, emotionality, alienation, and helplessness [12], [13]. The previous statement indicated that TE can be recognized through several symptoms that occurred and felt by someone who has experienced a traumatic event.

Dealing with TE requires a comprehensive understanding [2], [14]. Through in-depth and comprehensive understanding, related stakeholders, especially schools, can identify and design service programs that can be provided to students to help reduce or even eliminate the impact of TE felt by students who experienced traumatic events [15]. This also assists in enhancing the quality of education provided by the school.

Previous research also explained that the triggers of TE have different frequencies, conditions, and variations, one of them is influenced by gender dominance in schools [16], [17]. Schools with a certain gender dominance have a tendency to establish a hierarchy of power, authority, and relationships [18]. The hierarchical differences that are formed cause instability in interactions that sometimes lead to conflicts between students that lead to TE [19], [20]. Gender dominance can also occur in vocational schools. This is affected by certain majors that tend to be more popular among certain genders [21].

Besides being the cause of trauma, the way students respond to difficulties, pressures and problems is also influenced by the school environment [22], [23]. School environments with a certain gender dominance also provide different perspectives on the problems experienced by students [24]. This condition caused students to have different reactions and views in dealing with problems, included TE. Students' reactions and views on their TE can be identified through positive psychological attributes [25], [26]. Some positive psychological attributes such as self-love (SL), self-compassion (SC), gratitude, and happiness are known to have an impact on a person's TE [12], [27], [28].

Positive psychology is the studies of conditions and processes that contributed to optimal functioning in life [13]. While, positive psychological attributes are various attributes that supports the strength and formation of optimal psychological conditions [29]. These traits are related to each other and relate to other conditions within humans. SL, SC, gratitude, and happiness are some of the attributes contained in the concept of positive psychology. These attributes are interconnected with each other and related to other states in human beings. SL, compassion, gratitude, and happiness are some of the attributes found in the concept of positive psychology. In addition to relating to the field of positive psychology. These attributes are also related to TE that happen to people, included students in school [30], [31].

SL showed a correlation with TE. Some of the TE that students had experienced greatly affected their SL [27]. In addition, SL also helped students who had experienced traumatic events to handle their stress and painful feelings [32]. On other attributes, it was found that SC was related to TE [33]. This attribute help students to achieved a sense of compassion in dealing with any adversity, including stressful conditions experienced by individuals [33]. Gratitude also influences TE [34]. People with higher levels of gratitude are known to be able to gain lessons from stressful events [34]. While, happiness is known to help individuals become more resilient to the traumatic conditions they experienced [35].

However, this context is only discussed in general terms without considering the effect of gender and separated one attribute from another. Regarding this condition, the specific objective of this research is to explore the interaction of positive psychological attributes in an integrated framework with TE, especially based on gender analytic evaluation in vocational students. The exploration of differences in gender perspectives of vocational students in dealing with TE reflected in the positive psychological attributes possessed by the students is the novelty of the research conducted. This research then becomes important to do because through a better understanding of the patterns of views of TE of vocational students, it can serve as a basis for psychological services related to gender-based TE and is relevant to the current educational conditions that require attention in building a balance between mastery of technical skills and psychological well-being of vocational students. Based on the previous explanation, the model framework can be explained along with the direct hypothesis that can be formed from the model. The model framework that can be applied in this study is shown in Figure 1.

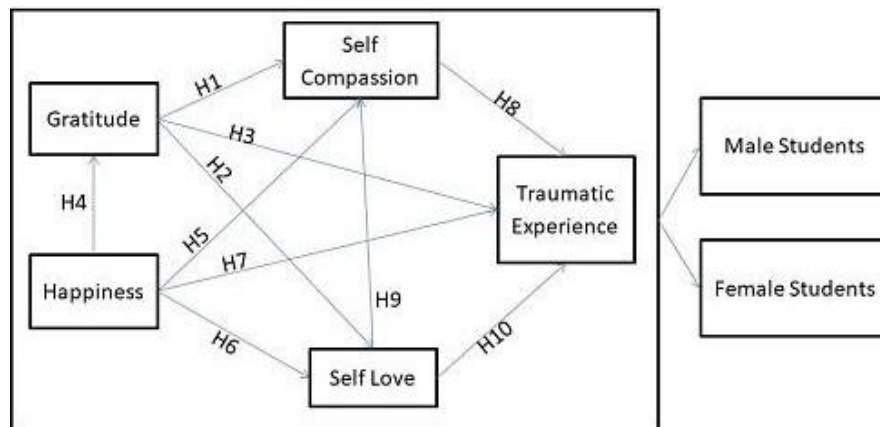


Figure 1. Hypothesis model framework

## 2. RESEARCH METHOD

### 2.1. Research design and respondent

This research is a cross-sectional survey using quantitative methods. A non-probability sampling was used in this research. Respondents in this study were 498 students from six vocational schools in West Sumatra, Indonesia. The six vocational schools in the West Sumatra Region were then selected based on the school's willingness to be involved in the research process. In this study, researchers chose three schools with a predominance of students with the male gender and three schools with a predominance of students with the female gender. Out of the total respondents, 236 people (47.4%) were male and 262 people (52.6%) were female. Based on age, 28 people (5.6%) were aged 15 years, 245 people (49.2%) were aged 16 years, 170 people (34.1%) were aged 17 years, and 55 people (11%) were aged 18 years. By grade, 332 people (66.67%) came from 10th grade, 165 people (66.67%) from 11th grade, and 1 people (0.2%) from 12th grade.

### 2.2. Data collecting and research instrument

The research was conducted directly by distributing research instruments that had been prepared based on the variables involved in the study with the guidance of teachers at the school by utilizing the google form instrument deployment application. A Likert scale was used for each measurement with each item rated on a scale of one to five. These measurements are in accordance with the literature that has been reviewed and adapted to the needs of the study. The measurement of TE variable used TE instrument with items, such as "not giving up even though my position is wrong," from Rusmana *et al.* [36]. The measurement of SL variable used SL instrument with items, such as "I treat myself well," from Henschke's SL instrument [37]. The measurement of SC variable used SC instrument with items, such as "I hate my own weaknesses," from Ramadhan *et al.* [38]. The measurement of gratitude variable used the gratitude instrument with items, such as "As I get older, I can appreciate every event that happens in life," from Aliya *et al.* [39]. While, the measurement of happiness variable used happiness instrument with items, such as "in general I consider myself happy," from Zhu [40] happiness instrument. Cronbach's alpha (CA) coefficient through reliability analysis in the Smart PLS 3.0 application is used to show the reliability of the instrument in order starting from 1.00; 0.89; 1.00; 1.00; 0.74. The CA coefficient value shows the reliability of the items for each instrument used.

### 2.3. Data analysis

Primary data were obtained through questionnaires. Data analysis was carried out using the SmartPLS 3 program which is useful for obtaining partial least squares equation models. This method of analysis allows a comprehensive understanding of the research variables. The analysis uses a series of tests such as the average variance extract (AVE) value which is  $>0.5$  to show convergent validity [41]. CA, composite reliability, and outer loading (OL) $>0.7$  for construct discriminant validity [42]. To evaluate the extent to which these variables capture different concepts, Fornell and Larcker [43] and heterotrait ratio of and monotrait [43] formula used. In addition, an importance-performance map analysis (IPMA) was also carried out to understand the relevance and performance of variables in the conceptual model [44]. The data was then analyzed across complete data, male and female.

### 3. RESULTS AND DISCUSSION

#### 3.1. Multi-group analysis-structural equation model

Reliability tests were carried out first to test the OL, CA, CR and AVE values. The data tested were all data, male and female data. Information on these data is shown in Table 1 and Figures 2 to 4. Table 1 and Figures 2 to 4 measuring the convergent validity test show that the OL data results exceed the value of 0.7 which indicates the reliability of the instrument [42]. In addition, the CA and CR values also exceed 0.7 [42]. Furthermore, the AVE value also exceeds 0.5 [41]. This showed that the data had met the standards and could be proceeded for further testing. The data then went through a discriminant test which is useful for measuring constructs through a variety of different research concepts. This measurement used the concept of Fornell and Larcker formula and heterotrait and monotrait (HTMT). The data tested were complete data, male students' data and female students' data.

Table 2 shows the results of the Fornell-Larcker test that the square root value of AVE for each variable has a higher value than the value below it [42]. Table 2 also shows that the HTMT test results for the overall data were in the range of 0.041-0.701, for male students' data were in the range of 0.024-0.722, and for female students' data were in the range of 0.052-0.675. All data are known to meet the criteria for values below 0.9 [42]. This indicates that the data that was tested is appropriate and can meet the criteria set for both complete data, male students' data and female students' data. Furthermore, the data can be inputted into hypothesis testing. Based on the model framework in the previous section, there are ten direct effects hypotheses that are formed and can be tested on complete data, both males' and females. The ten hypotheses are also tested using multi-group analysis (MGA) between male students' data and female students' data to determine the difference between male and female students' data. The 10 hypotheses are shown in Table 3.

Table 1. OL, CA, CR, and AVE

| Variable      | Item | OL    | Complete data |       |       | Male  |       |       |       | Female |       |       |       |
|---------------|------|-------|---------------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|
|               |      |       | CA            | CR    | AVE   | OL    | CA    | CR    | AVE   | OL     | CA    | CR    | AVE   |
| TE            | TE   | 1.000 | 1.000         | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000  | 1.000 | 1.000 | 1.000 |
|               | SL1  | 0.796 |               |       |       | 0.761 |       |       |       | 0.829  |       |       |       |
|               | SL2  | 0.797 |               |       |       | 0.791 |       |       |       | 0.797  |       |       |       |
| SL            | SL3  | 0.789 | 0.890         | 0.916 | 0.645 | 0.768 | 0.891 | 0.917 | 0.647 | 0.809  | 0.887 | 0.914 | 0.638 |
|               | SL4  | 0.820 |               |       |       | 0.822 |       |       |       | 0.823  |       |       |       |
|               | SL5  | 0.828 |               |       |       | 0.863 |       |       |       | 0.784  |       |       |       |
|               | SL6  | 0.789 |               |       |       | 0.818 |       |       |       | 0.751  |       |       |       |
| SC            | S.C  | 1.000 | 1.000         | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000  | 1.000 | 1.000 | 1.000 |
| Happiness (H) | H    | 1.000 | 1.000         | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000  | 1.000 | 1.000 | 1.000 |
|               | G1   | 0.856 |               |       |       | 0.880 |       |       |       | 0.817  |       |       |       |
| Gratitude (G) | G2   | 0.808 | 0.745         | 0.855 | 0.663 | 0.808 | 0.774 | 0.869 | 0.688 | 0.821  | 0.706 | 0.837 | 0.631 |
|               | G3   | 0.776 |               |       |       | 0.799 |       |       |       | 0.743  |       |       |       |

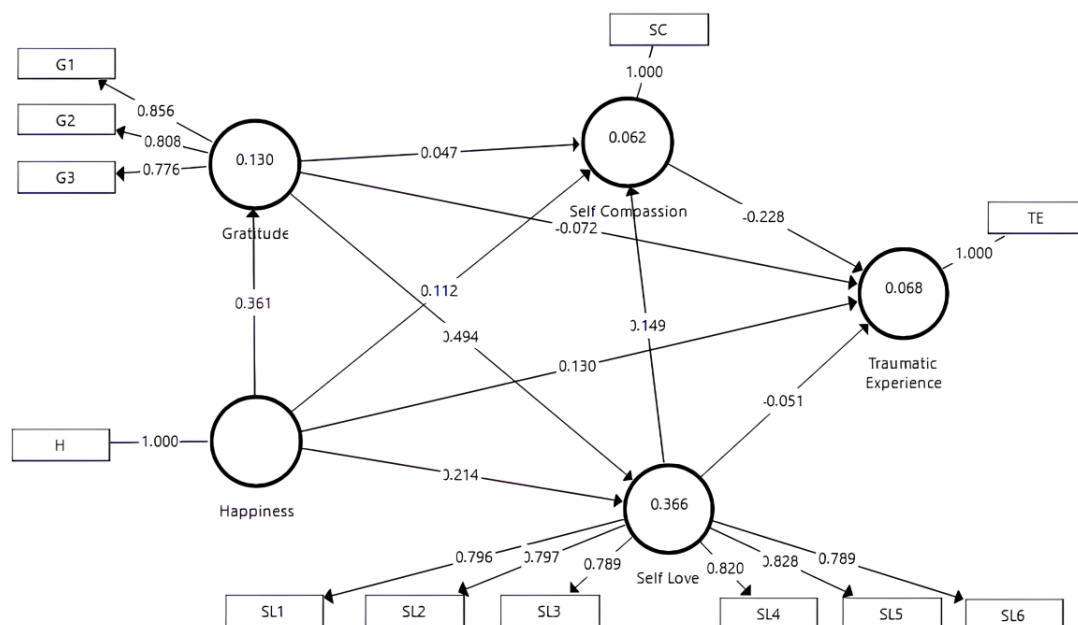


Figure 2. OL for complete data

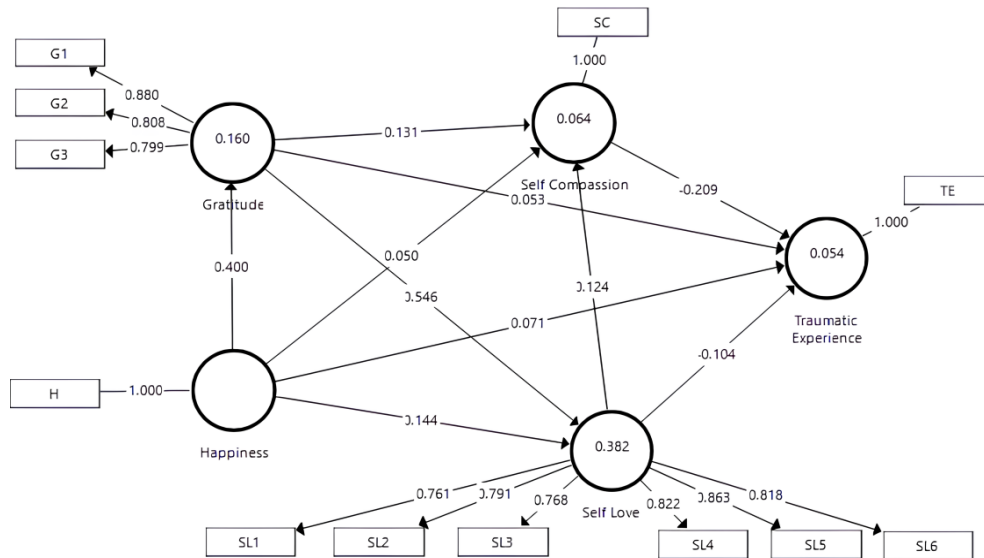


Figure 3. OL for males' data

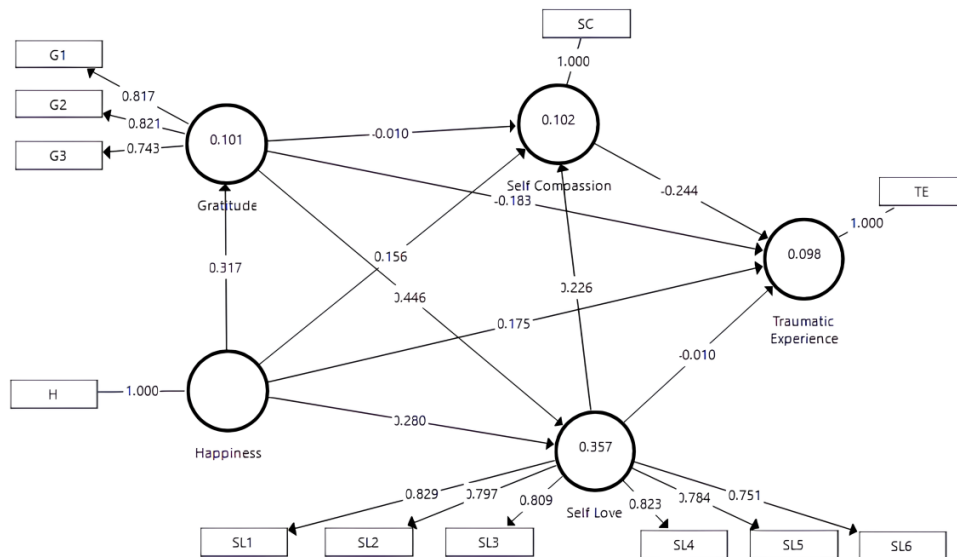


Figure 4. OL for females' data

Table 2. Fornell-Larcker criteria and HTMT correlation ratio

|                       |         | Fornell-Larcker criteria |       |        |        |       |                       | HTMT correlation ratio |       |       |       |       |    |
|-----------------------|---------|--------------------------|-------|--------|--------|-------|-----------------------|------------------------|-------|-------|-------|-------|----|
|                       | Var.    | G                        | H     | SC     | SL     | TE    |                       | Var.                   | G     | H     | S.C   | SL    | TE |
| Complete data         | G       | 0.814                    |       |        |        |       | Complete data         | G                      |       |       |       |       |    |
|                       | H       | 0.361                    | 1.000 |        |        |       |                       | H                      | 0.417 |       |       |       |    |
|                       | S.C     | 0.173                    | 0.188 | 1.000  |        |       |                       | S.C                    | 0.196 | 0.188 |       |       |    |
|                       | dialect | 0.571                    | 0.392 | 0.220  | 0.803  |       |                       | dialect                | 0.701 | 0.414 | 0.230 |       |    |
|                       | TE      | -0.093                   | 0.041 | -0.227 | -0.092 | 1.000 |                       | TE                     | 0.107 | 0.041 | 0.227 | 0.098 |    |
| Male students' data   | G       | 0.830                    |       |        |        |       | Male students' data   | G                      |       |       |       |       |    |
|                       | H       | 0.400                    | 1.000 |        |        |       |                       | H                      | 0.448 |       |       |       |    |
|                       | SC      | 0.226                    | 0.147 | 1.000  |        |       |                       | S.C                    | 0.248 | 0.147 |       |       |    |
|                       | dialect | 0.603                    | 0.362 | 0.221  | 0.805  |       |                       | dialect                | 0.722 | 0.383 | 0.235 |       |    |
|                       | TE      | -0.029                   | 0.024 | -0.210 | -0.093 | 1.000 |                       | TE                     | 0.044 | 0.024 | 0.210 | 0.098 |    |
| Female students' data | G       | 0.794                    |       |        |        |       | Female students' data | G                      |       |       |       |       |    |
|                       | H       | 0.317                    | 1.000 |        |        |       |                       | H                      | 0.378 |       |       |       |    |
|                       | SC      | 0.161                    | 0.249 | 1.000  |        |       |                       | S.C                    | 0.191 | 0.249 |       |       |    |
|                       | SL      | 0.535                    | 0.422 | 0.287  | 0.799  |       |                       | dialect                | 0.675 | 0.442 | 0.297 |       |    |
|                       | TE      | -0.172                   | 0.052 | -0.232 | -0.104 | 1.000 |                       | TE                     | 0.205 | 0.052 | 0.232 | 0.113 |    |

Table 3. Direct effect hypothesis

| No. | Direct effect hypothesis | No. | Direct effect hypothesis |
|-----|--------------------------|-----|--------------------------|
| 1.  | H1: gratitude->SC        | 6.  | H6: happiness->SL        |
| 2.  | H2: gratitude->SL        | 7.  | H7: happiness->TE        |
| 3.  | H3: gratitude->TE        | 8.  | H8: SC->TE               |
| 4.  | H4: happiness->gratitude | 9.  | H9: SL->SC               |
| 5.  | H5: happiness->SC        | 10. | H10: SL->TE              |

Table 4 shows that in the complete data analysis, there were eight accepted hypotheses marked with the symbol “✓” and shows a significant relationship with a p-value<0.05 [45], Meanwhile, hypothesis 7, the relationship between happiness and TE ( $\beta=0.041$ ,  $p=0.197$ ) and hypothesis 10, the relationship between SL and TE ( $\beta=-0.085$ ,  $p=0.071$ ) failed to show a significant relationship and were marked with the symbol “×”. In male students' data, there are seven accepted hypotheses marked with the symbol “✓” which showed that the seven hypotheses indicate a significant relationship while the other three hypotheses, namely hypothesis 3 showed a relationship between gratitude and TE ( $\beta=-0.046$ ,  $p=0.240$ ), hypothesis 7 showed a relationship between happiness and TE ( $\beta=0.024$ ,  $p=0.370$ ) and hypothesis 9 showed a relationship between SL and SC ( $\beta=0.124$ ,  $p=0.082$ ) did not indicate a significant relationship and were marked with the symbol “×”. Female students' hypothesis data shows that there are seven accepted hypotheses marked with the symbol “✓” indicating a significant relationship while three hypotheses, hypothesis 1, the relationship between gratitude and compassion ( $\beta=0.091$ ,  $p=0.091$ ), hypothesis 7, the relationship between happiness and TE ( $\beta=0.052$ ,  $p=-0.209$ ), hypothesis 10, the relationship between SL and TE ( $\beta=-0.065$ ,  $p=0.179$ ) showed no significant relationship and was marked with the symbol “×”. The happiness variable from complete data, both male and female students, was not significantly related to TE. The multigroup analysis between male and female students showed that the nine hypotheses tested had no significant difference between the data of male and female students and were marked with the symbol “×”. In contrast, the 3rd hypothesis, the relationship between gratitude and TE ( $\beta=0.164$ ,  $p=0.035$ ), showed a significant difference between male and female students and was marked with the symbol “✓”.

Table 4. Hypothesis analysis of direct effect and MGA (male vs female)

| Analysis of results    |                                       | H1    | H2    | H3     | H4    | H5     | H6     | H7     | H8     | H9     | H10    |
|------------------------|---------------------------------------|-------|-------|--------|-------|--------|--------|--------|--------|--------|--------|
| Complete data          | $\beta$                               | 0.120 | 0.494 | -0.124 | 0.361 | 0.188  | 0.392  | 0.041  | -0.228 | 0.149  | -0.085 |
|                        | P-value                               | 0.013 | 0.000 | 0.004  | 0.000 | 0.000  | 0.000  | 0.197  | 0.000  | 0.003  | 0.071  |
|                        | Results                               | ✓     | ✓     | ✓      | ✓     | ✓      | ✓      | ×      | ✓      | ✓      | ×      |
| Males' data            | $\beta$                               | 0.199 | 0.546 | -0.046 | 0.400 | 0.147  | 0.362  | 0.024  | -0.209 | 0.124  | -0.130 |
|                        | P-value                               | 0.004 | 0.000 | 0.240  | 0.000 | 0.012  | 0.000  | 0.370  | 0.001  | 0.082  | 0.048  |
|                        | Results                               | ✓     | ✓     | ✓      | ✓     | ✓      | ✓      | ×      | ✓      | ×      | ✓      |
| Females' data          | $\beta$                               | 0.091 | 0.446 | -0.210 | 0.317 | 0.249  | 0.422  | 0.052  | -0.244 | 0.226  | -0.065 |
|                        | P-value                               | 0.091 | 0.000 | 0.000  | 0.000 | 0.000  | 0.000  | 0.209  | 0.000  | 0.001  | 0.179  |
|                        | Results                               | ×     | ✓     | ✓      | ✓     | ✓      | ✓      | ×      | ✓      | ✓      | ×      |
| MGA (males vs females) | Diff. ( $\beta$ male- $\beta$ female) | 0.108 | 0.100 | 0.164  | 0.083 | -0.102 | -0.060 | -0.028 | 0.034  | -0.102 | -0.065 |
|                        | P-value                               | 0.146 | 0.113 | 0.035  | 0.180 | 0.141  | 0.260  | 0.378  | 0.356  | 0.160  | 0.274  |
|                        | Results                               | ×     | ×     | ✓      | ×     | ×      | ×      | ×      | ×      | ×      | ×      |

The data analysis results using structural equation model (SEM) showed that positive psychological attributes and students' TE have a relation, which indicates that comprehending students' TE through positive attributes that exist in students is one alternative in achieving a comprehensive understanding of students' TE in vocational schools. Schools have a role in helping students deal with TE, because schools and students are a unity that is inseparable. Gratitude has a positive influence on the TE experienced by students but differs based on gender between male and female. The results of the research conducted are in line with the research conducted by Rey *et al.* [46], which showed that strengthening gratitude has a positive and significant influence in helping students deal with traumatic events experienced by students and helping students avoid suicidal behavior, but different between male and female students. It is known that traumatic events experienced by students do not have a positive relationship with happiness in both male and female students. The results of the research obtained are in line with research conducted by Acat and Hisar [47], which explained that there was no influence between traumatic events experienced by students on student happiness for both male and female students. However, happiness is shown to have the ability to be a predictor of traumatic events experienced by students.

In another hypothesis, it is known that SC has an influence on the TE experienced by students at school but is not significantly different in the gender analysis conducted. This is in line with the research by Sesli and Çekiç [48], which showed that SC had a relationship with traumatic events experienced by students but did not show a significant difference between male and female students. The last hypothesis that reviews

SL with TE shows that SL is more influential on traumatic events experienced by female students, although in MGA it does not show enough significant differences between male and female data. This is also s that female tend to love themselves more and prioritize themselves more deeply than male [49].

The discussion showed how positive psychological attributes have an effect on TE and can be the basis for providing gender-based interventions for students who experience TE in vocational schools. This is expected to be the basis for developing psychological service programs that are beneficial for students in vocational schools. After understanding the relationship between positive psychological attributes and TE of vocational students based on gender analysis evaluation, the collected data were then analyzed to understand the role of the positive psychological attributes on the TE of vocational students. Further analysis can be seen in the next section.

### 3.2. Importance-performance map analysis

IPMA is also used in research to evaluate the performance and importance of variables of a model or system [44]. The variable map approach is based on two dimensions called performance and importance [50]. Performance represents how well a variable functions in the system, while importance represents how important the variable is in the system [50]. Thus, variables can be analyzed to determine priorities and focus areas for further development regarding the variables involved in research [44]. In other words, this analysis is useful for understanding how influential a variable is to the main variables that have been determined in the analysis. The main variable used in this research and used as a benchmark in conducting the analysis is students' TE. IPMA results can be further explained in four quadrants formed from the average of performance and importance scores [44]. The quadrant area consists of Q1 (good management, needs to be maintained, performance and importance above average), Q2 (important, but needs to be improved, importance value above average, performance value below average), Q3 (too high performance for less important conditions, importance value below average, performance value above average), and Q4 (no influence and no performance, importance value, and performance value below average) [44]. For example, the IPMA results for the complete data are used to provide an overview of the IPMA quadrants shown in Figure 5.

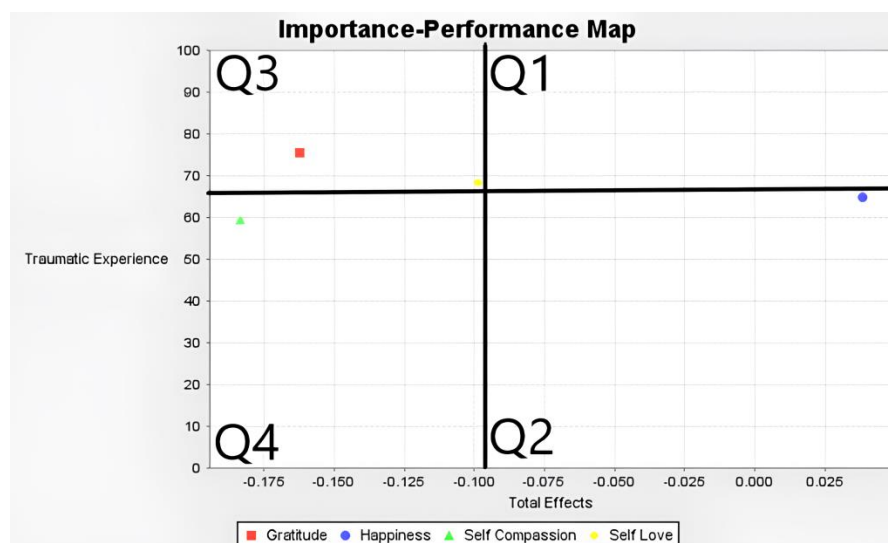


Figure 5. IPMA for complete data

IPMA analysis based on Table 5 and Figure 5 in the complete data showed that the happiness variable (Q2) is known to be an important variable in the TE of students but has a poor performance that requires attention from stakeholders related to students. In addition, it is also known that the SC variable (Q4) has low performance and has no effect on the condition of students' TE. The variables of gratitude and SL (Q3) showed that these variables performed well but were not very important for students' TE. Data from male students showed the opposite, based on the data, gratitude (Q1) is important and performs well on students' TE. This variable can certainly be maintained both by the students themselves and by others around them. Meanwhile, the happiness variable (Q2) also shows a high influence on TE but has a poor performance. This condition also requires attention from both the students themselves and the surrounding environment. Furthermore, SC and SL variables (Q4) were identified as unimportant and poorly performing



variables in relation to male students' TE. While, in the female students' data, SL (Q1) was found to be an important and well-performing variable in relation to students' TE, happiness (Q2) was also found to be an important but underperforming variable like the complete data and male students' data. Meanwhile, SC (Q4) was found to be an underperforming and unimportant variable in relation to female students' TE. The gratitude variable (Q3) was found to be a high performing but not very important variable for female students' TE.

The IPMA results explained in more depth the contribution of positive psychological attributes to the TE of students in vocational schools. Happiness has an important role in the traumatic events experienced by students. This result is also in line with the research described by Acat and Hisar [47] that happiness is a potential predictor of traumatic events experienced by students at school. The weak performance of happiness in the evaluation analysis conducted on all types of data indicates that this variable requires special attention from the school and has the potential to be a solution in developing interventions for students with traumatic events experienced by students in schools, including students in vocational schools. In addition, in dealing with TE, there are differences in perspectives between male and female students regarding the extent of the influence of positive psychological attributes on traumatic events experienced by students in vocational schools. Male students are known to have a tendency to prioritize gratitude over SL when facing TE. Meanwhile, the data for female students is the opposite, from the results of the analysis it is known that female have a tendency to love themselves rather than be grateful when dealing with TE that occur. This is in line with research conducted by Bowen [51] which explains that male students tend to be better at seeing positive conditions in TE that lead to the realization of gratitude. Meanwhile, the SC variable was found to be less influential on the TE of students in vocational schools, although the previous analysis showed a strong and positive relationship with TE.

Table 5. IPMA variable results complete data for male and female

| Latent variables |           | TE                          |                           | Position |
|------------------|-----------|-----------------------------|---------------------------|----------|
|                  |           | Total effect (significance) | Index value (performance) |          |
| Complete data    | Gratitude | -0.124                      | 75.444                    | Q3       |
|                  | Happiness | 0.041                       | 64.759                    | Q2       |
|                  | SC        | -0.228                      | 59.488                    | Q4       |
|                  | SL        | -0.085                      | 68.234                    | Q3       |
|                  | Mean      | -0.099                      | 66.981                    |          |
| Male data        | Gratitude | -0.046                      | 74.153                    | Q1       |
|                  | Happiness | 0.024                       | 63.242                    | Q2       |
|                  | SC        | -0.209                      | 66.631                    | Q4       |
|                  | SL        | -0.130                      | 65.083                    | Q4       |
|                  | Mean      | -0.090                      | 67.277                    |          |
| Female data      | Gratitude | -0.210                      | 76.553                    | Q3       |
|                  | Happiness | 0.052                       | 66.126                    | Q2       |
|                  | SC        | -0.244                      | 53.053                    | Q4       |
|                  | SL        | -0.065                      | 71.100                    | Q1       |
|                  | Mean      | -0.117                      | 66.708                    |          |

#### 4. CONCLUSION

This study emphasizes the role of psychological attributes in relation to the TE of vocational students. Positive psychological attributes are also known to have a function and significance in the interaction model with TE that occur in vocational students. The results of the hypothesis analysis conducted separately also showed different results between male and female students in terms of positive psychological attributes towards the TE of vocational students. Although in the MGA analysis conducted, there was only one hypothesis that had a significant difference between male and female students. Through the IPMA analysis, it helps to make a deeper contribution to comprehensively understand the traumatic events experienced by students in vocational schools. The results of the analysis also showed that gender-based interventions for students who experience TE show a high level of urgency because the perspectives of male and female students are different in addressing the TE they are faced with. Of course, schools as an important part of students must take a role in helping students deal with their TE. The design of the interventions provided should certainly be tailored to the needs of students, especially referring to the evaluation of gender analysis that has been carried out in this study. The findings can also be the basis for developing a vocational education curriculum that prioritizes the balance between mastery of competencies and students' psychological well-being. Based on the findings, further research is needed to examines the other positive psychological attributes that effects on vocational students' TE especially in longer period time.



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## AUTHOR CONTRIBUTIONS STATEMENT

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C : Conceptualization

M : Methodology

So : Software

Va : Validation

Fo : Formal analysis

I : Investigation

R : Resources

D : Data Curation

O : Writing - Original Draft

E : Writing - Review & Editing

Vi : Visualization

Su : Supervision

P : Project administration

Fu : Funding acquisition

## CONFLICT OF INTEREST STATEMENT

There is no conflict of interest in this research.

## DATA AVAILABILITY

The data that support the findings of this study are available on request from the corresponding author, [F]. The data, which contain information that could compromise the privacy of research participants, are not publicly available due to certain restrictions.

## REFERENCES




- [1] B. Stratford *et al.*, "A scoping review of school-based efforts to support students who have experienced trauma," *School Mental Health*, vol. 12, pp. 442–477, 2020, doi: 10.1007/s12310-020-09368-9.
- [2] E. Rossen and R. Hull, *Supporting and Educating Traumatized Students: A Guide for School-Based Professionals*. New York: Oxford University Press, 2020.
- [3] N. Barrett and E. Berger, "Teachers' experiences and recommendations to support refugee students exposed to trauma," *Social Psychology of Education*, vol. 24, no. 5, pp. 1259–1280, 2021, doi: 10.1007/s11218-021-09657-4.
- [4] E. Davies, J. Read, and M. Shevlin, "The impact of adverse childhood experiences and recent life events on anxiety and quality of life in university students," *Higher Education*, vol. 84, no. 1, pp. 211–224, 2022, doi: 10.1007/s10734-021-00774-9.
- [5] M. Joubert, "Social work students' perceptions of their readiness for practice and to practise," *Social Work Education*, vol. 40, no. 6, pp. 695–718, 2021, doi: 10.1080/02615479.2020.1749587.
- [6] R. N. Inderanata and T. Sukardi, "Investigation study of integrated vocational guidance on work readiness of mechanical engineering vocational school students," *Heliyon*, vol. 9, no. 2, pp. 1–12, 2023, doi: 10.1016/j.heliyon.2023.e13333.
- [7] K. Fondren *et al.*, "Children and Youth Services Review Buffering the effects of childhood trauma within the school setting: A systematic review of trauma-informed and trauma-responsive interventions among trauma-affected youth," *Children and Youth Services Review*, vol. 109, pp. 1–18, 2020, doi: 10.1016/j.childyouth.2019.104691.
- [8] S. A. Gherardi, R. E. Flinn, and V. B. Jaure, "Trauma-Sensitive Schools and Social Justice: A Critical Analysis," *Urban Review*, vol. 52, no. 3, pp. 482–504, 2020, doi: 10.1007/s11256-020-00553-3.
- [9] A. M. Ebbert, N. L. Kumar, and S. S. Luthar, "Complexities in Adjustment Patterns among the 'Best and the Brightest': Risk and Resilience in the Context of High Achieving Schools," *Research in Human Development*, vol. 16, no. 1, pp. 21–34, 2019, doi: 10.1080/15427609.2018.1541376.
- [10] K. T. McCrea *et al.*, "Understanding violence and developing resilience with African American youth in high-poverty, high-crime communities," *Children and Youth Services Review*, vol. 99, pp. 296–307, 2019, doi: 10.1016/j.childyouth.2018.12.018.
- [11] F. Neuner, "Physical and social trauma: Towards an integrative transdiagnostic perspective on psychological trauma that involves threats to status and belonging," *Clinical psychology review*, vol. 99, p. 102219, 2023, doi: 10.1016/j.cpr.2022.102219.
- [12] K. S. Amritha, "Exploring the Relationship of Self-Compassion and Gratitude: A Multidimensional Analysis Among Sports Professionals," *Journal of Contemporary Approaches in Psychology and Psychotherapy*, vol. 2, no. 2, pp. 7–22, 2024, doi: 10.57017/jcapp.v2.i2.01.

- [13] H. P. Phan *et al.*, "Advancing the study of positive psychology: the use of a multifaceted structure of mindfulness for development," *Frontiers in Psychology*, vol. 11, p. 01602, 2020, doi: 10.3389/fpsyg.2020.01602.
- [14] S. S. Luthar and S. H. Mendes, "Trauma-informed schools: Supporting educators as they support the children," *International Journal of School and Educational Psychology*, vol. 8, no. 2, pp. 147–157, 2020, doi: 10.1080/21683603.2020.1721385.
- [15] S. Kim, C. V. Crooks, K. Bax, and M. Shokoochi, "Impact of Trauma-Informed Training and Mindfulness-Based Social-Emotional Learning Program on Teacher Attitudes and Burnout: A Mixed-Methods Study," *School Mental Health*, vol. 13, no. 1, pp. 55–68, 2021, doi: 10.1007/s12310-020-09406-6.
- [16] M. Granski, S. Javdani, C. E. Sichel, and M. Rentko, "Gender differences in the relationship between self-silencing, trauma, and mental health among juvenile legal system-involved youth," *Feminist Criminology*, vol. 15, no. 5, pp. 545–566, 2020, doi: 10.1177/1557085120955234.
- [17] N. L. Chance, "A phenomenological inquiry into the influence of crucible experiences on the leadership development of Black women in higher education senior leadership," *Educational Management Administration & Leadership*, vol. 49, no. 4, pp. 601–623, 2021, doi: 10.1177/17411432211019417.
- [18] P. O. Connor, M. Hodgins, D. R. Woods, E. Wallwaey, and R. Palmen, "Organisational Characteristics That Facilitate Gender-Based Violence and Harassment in Higher Education?" *Administrative Science*, vol. 11, no. 138, pp. 1–13, 2021, doi: <https://doi.org/10.3390/admsci11040138>.
- [19] Y. Karneli, E. Purwanta, M. S. B. M. Sidik, M. Fikri, Afdal, and Firman, "An examination of student bullying tendencies in West Sumatera Indonesia," *Cakrawala Pendidikan*, vol. 42, no. 2, pp. 392–401, 2023, doi: 10.21831/cp.v42i2.57936.
- [20] Firman and Syahnar, "Prevention of sexual harassment through the information services using the contextual teaching and learning approach in the senior high school," *International Journal of Learning and Change*, vol. 12, no. 3, pp. 265–273, 2020, doi: 10.1504/IJLC.2020.108370.
- [21] K. Baxter, B. C. Id, B. Schivinski, and M. R. Massaro, "Masculine men do not like feminine wording: The effectiveness of gendered wording in health promotion leaflets in the UK," *PLoS ONE*, vol. 17, no. 10, pp. 1–28, 2022, doi: 10.1371/journal.pone.0273927.
- [22] L. C. Hensley, R. Iaconelli, and C. A. Wolters, "'This weird time we're in': How a sudden change to remote education impacted college students' self-regulated learning," *Journal of Research on Technology in Education*, vol. 54, no. suppl, pp. S203–S218, 2022, doi: 10.1080/15391523.2021.1916414.
- [23] L. Closs, M. Mahat, and W. Imms, "Learning environments' influence on students' learning experience in an Australian Faculty of Business and Economics," *Learning environments research*, vol. 25, no. 1, pp. 271–285, 2022, doi: 10.1007/s10984-021-09361-2.
- [24] L. He, G. Zhou, G. Salinitri, and L. Xu, "Female Underrepresentation in STEM Subjects: An Exploratory Study of Female High School Students in China," *URASIA Journal of Mathematics, Science and Technology Education*, vol. 16, no. 1, pp. 1–13, 2020, doi: 10.29333/ejmste/109657.
- [25] K. R. Watson, G. Capp, R. A. Astor, M. S. Kelly, and R. Benbenishty, "'We need to address the trauma': School social workers' views about student and staff mental health during COVID-19," *School mental health*, vol. 14, no. 4, pp. 902–917, 2022, doi: 10.1007/s12310-022-09512-7.
- [26] Y. Wu, W. Yu, X. Wu, H. Wan, Y. Wang, and G. Lu, "Psychological resilience and positive coping styles among Chinese undergraduate students: a cross-sectional study," *BMC Psychology*, vol. 8, no. 79, pp. 1–11, 2020, doi: 10.1186/s40359-020-00444-y.
- [27] K. Abramson and A. Leite, "Self-Love and Self-Acceptance," in *The Philosophy and Psychology of Ambivalence: Being of Two Minds*, B. Brogaard and D. E. Gatzia, Eds., New York: Routledge, 2020, pp. 147–174.
- [28] E. Kahana, T. R. Bhatta, B. Kahana, and N. Lekhak, "Loving others: The impact of compassionate love on later-life psychological well-being," *The Journals of Gerontology: Series B*, vol. 76, no. 2, pp. 391–402, 2021, doi: 10.1093/geronb/gbaa188.
- [29] M. M. Baluku, J. F. Kikooma, K. Otto, C. J. König, and N. ul H. Bajwa, "Positive Psychological Attributes and Entrepreneurial Intention and Action: The Moderating Role of Perceived Family Support," *Frontiers in Psychology*, vol. 11, p. 546745, 2020, doi: 10.3389/fpsyg.2020.546745.
- [30] Y. Wang, A. Derakhshan, and L. J. Zhang, "Researching and practicing positive psychology in second/foreign language learning and teaching: the past, current status and future directions," *Frontiers in Psychology*, vol. 12, p. 731721, 2021, doi: 10.3389/fpsyg.2021.731721.
- [31] T. L. A. Chu, "Applying positive psychology to foster student engagement and classroom community amid the COVID-19 pandemic and beyond," *Scholarship of Teaching and Learning in Psychology*, vol. 8, no. 2, pp. 154–163, 2022, doi: 10.1037/stl0000238.
- [32] V. D. Krisnanda, M. Ramli, and N. Hidayah, "Cognitive Behavioral Therapy (CBT) Counseling to Develop Self-love of Domestic Violence Trauma Survivors," (in Indonesian), *Counsellia: Jurnal Bimbingan dan Konseling*, vol. 12, no. 2, pp. 116–129, 2022, doi: 10.25273/counsellia.v12i2.14167.
- [33] S. Winders, O. Murphy, K. Looney, and G. O'Reilly, "Self-compassion, trauma, and posttraumatic stress disorder: A systematic review," *Clinical psychology & psychotherapy*, vol. 27, no. 3, pp. 300–329, 2020, doi: 10.1002/cpp.2429.
- [34] W. Wenchao and W. U. Xinchun, "Mediating roles of gratitude, social support and posttraumatic growth in the relation between empathy and prosocial behavior among adolescents after the Ya'an earthquake," *Acta Psychologica Sinica*, vol. 52, no. 3, pp. 307–316, 2020, doi: 10.3724/SP.J.1041.2020.00307.
- [35] C. Vazquez *et al.*, "Post-traumatic growth and stress-related responses during the COVID-19 pandemic in a national representative sample: The role of positive core beliefs about the world and others," *Journal of Happiness Studies*, vol. 22, pp. 2915–2935, 2021, doi: 10.1007/s10902-020-00352-3.
- [36] N. Rusmana, A. Hafina, and D. Suryana, "Group Play Therapy for Preadolescents: Post-Traumatic Stress Disorder of Natural Disaster Victims in Indonesia," *The Open Psychology Journal*, vol. 13, no. 1, pp. 213–222, 2020, doi: 10.2174/1874350102013010213.
- [37] E. Henschke, "Reconsidering Self-Love: Development of a Model and a Questionnaire for Measuring a Controversial Construct," Ph.D. dissertation, Technische Universität Chemnitz, Germany, 2021.
- [38] R. A. Ramadhan, Ahman, and M. Solehuddin, "Validation of the Indonesian version of the self-compassion scale for youth using Rasch model analysis," *Enlighten: Jurnal Bimbingan Konseling Islam*, vol. 7, no. 1, pp. 46–63, 2024, doi: 10.32505/enlighten.v7i1.8485.
- [39] W. K. Aliya, A. Aliya, and L. D'Souza, "Assessment of gratitude and well-being and their relationship: influence of select demographic variables," *International Journal of Indian Psychology*, vol. 8, no. 3, pp. 1794–1801, 2020, doi: 10.25215/0803.184.
- [40] S. M. Zhu, "Subjective Happiness Scale (1999–2020)," in *Encyclopedia of Quality of Life and Well-Being Research*, F. Maggino, Ed., Cham: Springer, 2022, pp. 1–6, doi: 10.1007/978-3-319-69909-7\_104697-1.




- [41] N. Shrestha, "Factor Analysis as a Tool for Survey Analysis," *American Journal of Applied Mathematics and Statistics*, vol. 9, no. 1, pp. 4–11, 2021, doi: 10.12691/ajams-9-1-2.
- [42] M. S. K. Al-Marsomi and F. M. S. Al-Zwainy, "Structural Equation Modeling of Critical Success Factors in The Programs of Development Regional," *Journal of Project Management (Canada)*, vol. 8, no. 2, pp. 119–132, 2023, doi: 10.5267/j.jpm.2022.11.002.
- [43] A. Afthanorhan, P. L. Ghazali, and N. Rashid, "Discriminant Validity: A Comparison of CBSEM and Consistent PLS using Fornell & Larcker and HTMT Approaches," *Journal of Physics: Conference Series*, vol. 1874, no. 1, p. 012085, 2021, doi: 10.1088/1742-6596/1874/1/012085.
- [44] J. García-Fernández, J. Fernández-Gavira, A. J. Sánchez-Oliver, P. Gálvez-Ruiz, M. Grimaldi-Puyana, and G. Cepeda-Carrión, "Importance-performance Matrix Analysis (IPMA) to Evaluate Servicescape Fitness Consumer by Gender and Age," *International Journal of Environmental Research and Public Health*, vol. 17, no. 18, p. 6562, 2020, doi: 10.3390/ijerph17186562.
- [45] E. Komaroff, "Relationships Between p-values and Pearson Correlation Coefficients, Type 1 Errors and Effect Size Errors, Under a True Null Hypothesis," *Journal of Statistical Theory and Practice*, vol. 14, no. 3, p. 49, 2020, doi: 10.1007/s42519-020-00115-6.
- [46] L. Rey, C. Quintana-Orts, S. Mérida-López, and N. Extremera, "Being bullied at school: Gratitude as potential protective factor for suicide risk in adolescents," *Frontiers in Psychology*, vol. 10, p. 662, 2019, doi: 10.3389/fpsyg.2019.00662.
- [47] Ö. Acat and K. M. Hisar, "Childhood Traumas, Ego Defense Mechanisms, and Happiness Level in Medical Students," *Journal of General Health Sciences (JGEHES), Necmettin Erbakan University*, vol. 5, pp. 34–46, 2023, doi: 10.51123/jgehes.2023.73.
- [48] Ç. Sesli and A. Çekiç, "Predictors of Post-Traumatic Stress Disorder in Adolescents: Loneliness and Self-Compassion," *International Journal of Progressive Education*, vol. 20, no. 1, pp. 1–12, 2024, doi: 10.29329/ijpe.2024.646 An.
- [49] T. A. Reynolds, "Our grandmothers' legacy: Challenges faced by female ancestors leave traces in modern women's same-sex relationships," *Archives of Sexual Behavior*, vol. 51, no. 7, pp. 3225–3256, 2022, doi: 10.1007/s10508-020-01768-x.
- [50] M. Ranjbari, Z. S. Esfandabadi, and S. D. Scagnelli, "A big data approach to map the service quality of short-stay accommodation sharing," *International Journal of Contemporary Hospitality Management*, vol. 32, no. 8, pp. 2575–2592, 2020, doi: 10.1108/IJCHM-02-2020-0097.
- [51] S. L. Bowen, "A Way to Grow? An Exploration of the Impact of Different Types of Gratitude Diary and the Association Between Gratitude and Post Traumatic Growth," Ph.D. dissertation, University of Southampton, UK, 2023, doi: 10.5258/SOTON/D2809.

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