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CATEGORICAL ANALYSIS OF STUDENT ENTHUSIASM RELATED TO THE 2024 INDONESIAN ELECTION WITH CHI-SQUARE INDEPENDENCE TEST

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ABSTRACT

General elections in Indonesia are crucial for democracy, enabling citizens to directly choose their leaders. But the abstention or the "whites" in Indonesian elections is growing due to perceived political bias in the state apparatus operating under bureaucratic democracy principles. KPU RI has designated the National Permanent Voter List for the 2024 election, with 52% being young voters consisting of students. Ranging in age from 17 to 22 years old, the students will make a major contribution to the number of votes and the number of abstinences. In this study, a chi-square independence test was conducted to analyze the factors that were thought to be associated with student enthusiasm regarding the 2024 Indonesian elections. The results of this study indicate that the variable that has a significant relationship with student enthusiasm regarding the 2024 Indonesian elections is the intensity of social media use with a p-value of 0.017. Meanwhile, variables that do not have a significant relationship with student enthusiasm regarding the 2024 Indonesian elections are regional origin and gender with a p-value of 1.000 and 0.679, respectively.

Keywords: Categorical Analysis; Chi-Square; Election; Enthusiasm; Students.

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INTRODUCTION

Indonesia is the third largest democracy in the world, following India and the United States, with a long history of political transition since the fall of the New Order regime in 1998. Although more than two decades have passed, the process of democratic consolidation in Indonesia has progressed rather slowly and continues to face various challenges, such as the weakening of the rule of law, the rise of populism, and the decline of press freedom (Kristal, 2021). Several studies even suggest signs of democratic deconsolidation, marked by the deteriorating quality of political institutions and the shrinking space for civil liberties (Yanti et al., 2025).

General elections are one of the main pillars of the democratic system, where citizens have the right to participate through their right to vote directly for their leaders and deputies. A person or organization that actively engages in politics, such as by choosing state leaders and influencing public policy, is said to be participating in politics. either directly or indirectly. Such activities include voting in elections, participating in general assemblies, interacting with government officials or parliamentarians, lobbying, joining parties or social movements with direct action, etc. (Asmika, 2018). The election system in Indonesia is based on the 1945 constitution as the main foundation and other more detailed laws, see law 8 of 2012 concerning the general election administration law 15 of 2011; the election of members of the regional representative council, the people's representative council, and the regional people's representative council. Law 2 of 2011 addressing Political Parties, law 32 of 2004 about regional government (encompassing regional elections), and law 42 of 2008 concerning presidential and vice-presidential elections, the laws pertaining to the council of regional representatives of the house of representatives, regional consultative assembly, and regional people's representative council are outlined in Law 27 of 2009. The entire legal foundation reflects Indonesia's democratic system, which has been embedded and continuously updated. In the world of elections, the word abstain is familiar. Abstain is short for "whites". The phenomenon of non-voting behavior known as abstaining in Indonesia continues to be present and is always increasing. The reason for abstention is political; while elections are not political, the state apparatus, which is not impartial since it operates under the tenets of bureaucratic democracy. Public dissatisfaction with governmental institutions that appeared to be unfair in their decision-making, on the other hand, was the driving force for the rise in abstention from voting in the 2020 election. Especially considering the government's assumptions that seem inconsistent with taking policies (Lestari, 2021).

The KPU stated that the General Election Commission of the Republic of Indonesia, or KPU RI, has set the National Permanent Voter List (DPT) for the 2024 election at 204,807,222 people. Of those, 52% are young voters. The determination was made in the Open Plenary Meeting of the National DPT Recapitulation of the 2024 election at the KPU RI Office, Jakarta, on Sunday, July 2, 2023. Based on KPU data, the number of young voters reached 106,358,447 people (KPU, 2023) . One layer of the population who took an important role in organizing the election this time was students. Students ranging in age from 17 to 22 years old will make a major contribution to the upcoming 2024 election. The enthusiasm of students will greatly determine the number of votes and the number of abstinences. Therefore, it is necessary to conduct research to identify factors associated with student enthusiasm for the 2024 General Election.

Research on the influence of social media in elections has been done before (Sellita, 2022) used qualitative methodologies to conduct an analysis to determine the impact of social media on the elections of 2014 and 2019. The outcomes demonstrated that social media played a bigger part in the 2019 election than it did in the 2014 election.; social media facilitated the candidates' digital campaigns, and candidates used social media by creating special content to attract voters' attention. Meanwhile, (Ramadhi & Alfirdaus, 2021) also conducted similar research, namely the political participation of students from Aceh in Semarang City with a qualitative descriptive method. The results showed that the political participation of students from Aceh in Semarang City in the 2019 Presidential Election had good participation, which was represented in the assessment of candidates based on performance and track record. Meanwhile, the factor that influenced the political participation of students from Aceh in Semarang City in the 2019 Presidential Election was the cognitive factor, namely the ability of students from Aceh to think rationally and critically. Candidate factors: students from Aceh choose candidates who have charisma and good experience; and parent or family factors: this selection follows from the choice of parents. A previous study conducted by (Suarmini et al., 2021) examined the relationship between the characteristics of female voters and their political preferences using descriptive statistical methods and the chi-square test of independence. The study found that the p-value for the chi-square test of the variable "political experience through election participation" was 0.050, the p-value for

"favorite candidate" was 0.000, and the p-value for "knowledge of representation" was 0.046. The study concluded that women's political experience through election participation, their favorite candidate, and their knowledge of representation were significantly related to their political preferences.

Based on this description, this study uses categorical data analysis to examine the factors associated with students' enthusiasm for the 2024 Indonesian elections. The factors observed include gender, regional origin, and intensity of social media use. All variables in this study are categorical, and the main objective is to identify whether there is a relationship between student enthusiasm and these factors without building a predictive model. Therefore, the chi-squared independence test was used, which is suitable for testing the relationship between categorical variables and providing an initial idea of the pattern of association.

MATERIALS AND METHODS

Data and Data Sources

The data used in this study is primary data. Primary data refers to data obtained directly from the source by the researcher. This type of data can be collected through interviews with research subjects or through direct observation in the field (Sugiyono, 2019). The instrument used was a questionnaire prepared by the researcher and distributed online via Google Form. This questionnaire consisted of a number of statements designed to measure the level of enthusiasm of university students towards the 2024 Indonesian General Election, as well as factors that are thought to be related to it, namely gender, regional origin, and intensity of social media use.

To measure enthusiasm, a Guttman scale with 2 answer options (yes, no) was used and to measure social media intensity, a Likert scale with 5 answer options (strongly disagree, disagree, neutral, agree, strongly agree) was used. This scale allows researchers to obtain data that reflects the level of agreement or attitude of respondents to the statements given. The answers were then categorized for statistical analysis using the chi-square test.

The sampling technique used was non-probability sampling with a purposive sampling approach, where respondents were selected based on certain criteria, namely being active students and domiciled in Indonesia. The total data collected from this online questionnaire amounted to 67 respondents.

Research Variables

The study examined variables, categorizing them into response and independent variables. Table 1 displays the specific response and independent variables under consideration.

Table 1. Definition of Research Variables

Variables	Category	Scale
Election Enthusiasm (Y)	0 = Not Enthusiastic 1 = Enthusiastic	Nominal
Social Media Intensity (X_1)	0 = Medium 1 = Often	Nominal
Gender (X_2)	0 = Male 1 = Female	Nominal
Regional (X_3)	0 = Outside Java 1 = Java	Nominal

Validity Test

A validity test assesses the legitimacy of a questionnaire, employing the Pearson product moment correlation technique to determine correlations between individual question items and the overall score. The resulting correlation value is then compared to the critical value in the correlation table of r values. In instances where the correlation value surpasses the predetermined critical threshold, the question attains validity for incorporation into the questionnaire (Sugiyono, 2015).The formulation of the validity test is as follows:

$$r_{xy} = N\sum xy - \frac{\sum x \sum y}{\sqrt{((N\sum x^2)-(\sum x)^2)(N\sum y^2-(\sum y)^2)}} \quad (1)$$

With r_{xy} represent correlation coefficient between variables x and y, N is sum of respondents, $\sum x$ is sum score of items and $\sum y$ is sum all values of score. According to (Sugiyono, 2019), questions items

are considered valid if the calculated correlation coefficient ($r_{calculated}$) exceeds the critical value from the correlation table ($r_{\alpha;n}$).

Reliability Test

A questionnaire is considered reliable if the answers to the questionnaire show consistency or stability over time. High reliability is required on the questionnaire as a measuring tool, and reliability calculations can only be done after the questionnaire has passed the validity test. A frequently employed dependability metric is the Cronbach Alpha coefficient, especially when research instruments are arranged using the Likert scale. If the Cronbach Alpha value of a variable exceeds 0.60, in summary, the variable's measurement might be deemed dependable or consistent (Anggraini et al., 2022).The formulation of the Cronbach Alpha value is as follows

$$r_i = \frac{k}{k-1}\left(1 - \frac{\sum \sigma_b^2}{\sigma_t^2}\right) \quad (2)$$

Where r_i represent instrument reliability coefficient, k is sum of respondents, $\sum \sigma_b^2$ is number of grain variances, and σ_t^2 is total variance.

Chi-square Independence Test

The Chi-Square Test of Independence is limited to comparing categorical variables and cannot be used to compare continuous variables or a mix of categorical and continuous variables. Furthermore, this test only evaluates the relationship between categorical variables and does not allow for any conclusions about causality . The theory put out in the independence test is as follows:

H_0 : The predictor variable has no bearing on the response variables

H_1 : The predictor variable and the response variables are not independent

The statistics Chi-square test formulated as follows

$$\chi^2 = \sum_{i=1}^{k} \frac{(O_i - E_i)\text{^}2}{E_i} \quad (3)$$

Where O_i is the number of cases observed in the category, E_i is the number of expected cases. H_0 rejected if p-value $< \alpha$ or $\chi^2 > \chi^2_{(\alpha,\nu)}$ where $\nu = (b-1)(k-1)$ is degree of freedom.

Data Analysis Steps

The steps for data analysis to respond to the way the study's problem was formulated are as follows:

1. Analyze data characters descriptively with contingency tables and diagrams.
2. Conduct validity and reliability tests on questionnaire data.
3. Perform a Chi-Square independence test on the data.
4. Observe and interpret the results of the Chi-Square independence test.

RESULTS AND DISCUSSION

Based on data obtained from this study, there were a total of 67 student respondents. Descriptive statistics are used for data analysis. Figure 1 presents the findings from the descriptive statistical analysis.

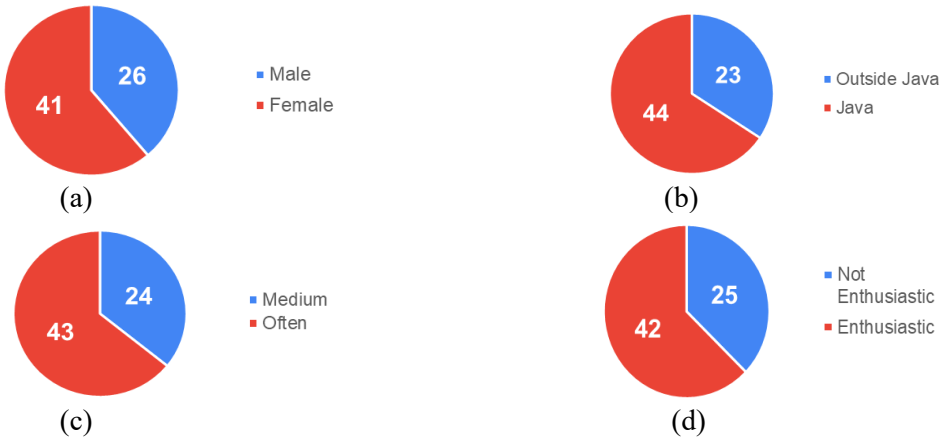

Figure 1. Pie Chart of (a) Gender (b) Regional Origin (c) Social Media Intensity Enthusiasm

Based on Figure 1 (a), It's evident that there are 26 male responders overall or 38.8% of the total respondents, and 41, or 61.2%, of the responses were female of the total respondents. Based on Figure 1 (b), it is evident that the quantity of respondents from the Java area is 44, or 65.68% of the total respondents, and the number of respondents from outside Java is 23, or 34.23% of the total respondents. Considering Figure 1 (c), it is evident that the quantity of participants having "medium" social media intensity is 24, or 35.82% of the total respondents, and the number of respondents with "often" social media intensity is 43, or 64.18% of the total respondents. Based on Figure 1 (d), It is evident that the quantity of participants who are enthusiastic about the 2024 election is 42, or 62.69% of all those that responded. In the meantime, the quantity of participants who were not enthusiastic about the 2024 election is 25, or 37.31% of the total respondents.

Validity and Reliability Tests

The response results from the questionnaire were tested using the validity and reliability tests to ensure the question instrument was valid and reliable. In the validity test, each component of the question submitted was tested using the Pearson correlation test. Questions items are considered valid if $(r_{calculated}) > (r_{table})$. With a specified alpha of 5% and a sample size of 67, the correlation coefficient table (r_{table}) is obtained at 0.199. As a result, these are the validity test findings:

Table 2. Validity Test of Social Media Intensity

No	Questions	Pearson Correlation	Conclusion
1.	When I have free time, I play social media	0.455	Valid
2.	I open social media with excitement and enthusiasm	0.534	Valid
3.	I feel that communication through social media is more effective than direct communication	0.773	Valid
4.	I prefer social media chats to in-person chats	0.743	Valid
5.	I feel enthusiastic about participating in public discussions related to a topic/issue on social media	0.553	Valid

Based on Table 2., the Pearson correlation value for each question for the social media intensity topic $(r_{calculated}) > r_{table} = 0.199$. Thus, it can be said that failed to reject H_0 with conclusion that each question given for the social media intensity topic are valid.

Table 3. Validity Test of Election Enthusiasm

No	Questions	Pearson Correlation	Conclusion
1.	I follow developments and news about the 2024 Indonesia's election	0.299	Valid
2.	I am conscious of the vice president and president candidates registered for the 2024 Indonesia's election.	0.524	Valid
3.	I already have criteria or have made a choice of president and vice president candidates that I will vote for	0.616	Valid
4.	I often discuss the topic of Indonesia's 2024 general election with my friends or relatives	0.645	Valid
5.	I actively persuade my chat buddies to vote for the president and vice president candidates that I support.	0.553	Valid

Based on Table 3., evidently, the Pearson correlation value for each question for the election enthusiasm topic $(r_{calculated}) > r_{table} = 0.199$. Thus, it can be said that failed to reject H_0 with conclusion every question given for the election enthusiasm topic are valid.

Furthermore, the reliability test used the Cronbach's alpha test. A variable is considered reliable if the measurement findings' standard deviation is reasonably low or if the Cronbach's alpha value is higher than the r-table. Conversely, a variable is considered unreliable if the measurement results' standard deviation is rather high or the Cronbach's alpha value is less than r_{table}. The calculation results can be presented in the Table 4.

Table 4. Reliability Test of Social Media Intensity

Variable	Cronbach's Alpha Value	Conclusion
Social Media Intensity	0.600	Reliable
Election Enthusiasm	0.389	Reliable

Based on Table 4, the Cronbach's alpha value for all variable is greater than $r_{table} = 0.199$. Thus, it can be said that the social media intensity and reliable election enthusiasm questionnaire is reliable.

Contingency Tables

The next step is to create a contingency table for each variable. The contingency table contains observation and expectation values to facilitate the testing stage and determine the appropriate test. The following is a contingency table for each variable:

Table 5. Contingency Table Gender and Enthusiasm

Gender		Enthusiasm		Total
		Not Enthusiastic	Enthusiastic	
Male	Count	11	15	26
	Expectation	9.7	16.3	26
Female	Count	14	27	41
	Expectation	15.3	25.7	41
Total	Count	25	42	67
	Expectation	25	42	67

Based on Table 5., it can be observed that the proportion of enthusiastic male students is 15/26, or 0.5769, while the proportion of enthusiastic female students is 27/41, or 0.6585. Furthermore, it can be observed that the contingency table is 2x2 and there are no expectation values below 5 (expectation < 5), so the appropriate test is Chi-Square continuity correction.

Table 6. Contingency Table Region Origin and Enthusiasm

Region Origin		Enthusiasm		Total
		Not Enthusiastic	Enthusiastic	
Outside Java	Count	9	14	23
	Expectation	8.6	14.4	23
Java	Count	16	288	44
	Expectation	16.4	27.6	44
Total	Count	25	42	67
	Expectation	25	42	67

Based on Table 6., it can be observed that the proportion of students from outside Java who are enthusiastic is 14/23, or 0.6087, while the proportion of students from Java who are enthusiastic is 28/44, or 0.6364. Furthermore, it can be observed that the contingency table is 2x2 and there is no expectation value below 5 (expectation < 5), so the appropriate test is Chi-Square continuity correction.

Table 7. Contingency Table Social Media Intensity and Enthusiasm

Social Media Intensity		Enthusiasm		Total
		Not Enthusiastic	Enthusiastic	
Medium	Count	14	10	24
	Expectation	9	15	24
Often	Count	11	32	43
	Expectation	16	27	43
Total	Count	25	42	67
	Expectation	25	42	67

Based on Table 7., it can be observed that the proportion of students with "medium" social media intensity who are enthusiastic is 10/24, or 0.4167, while the proportion of students with "often" social media intensity who are enthusiastic is 32/43, or 0.7442. Furthermore, it can be observed that the contingency table is 2x2 and there is no expectation value below 5 (expectation < 5), so the appropriate test is Chi-Square continuity correction.

Chi-Square Independence Test

Chi-Square Independence Test of Gender and Enthusiasm

Table 8. Chi-Square Test for Gender and Enthusiasm

Statistics Test	Degree of Freedom	p-value
Continuity Correction	1	0.679

Based on Table 8, it can be observed that the p-value (0.679) exceeds the predetermined alpha value (0.05). Hence, the correct decision is to fail to reject H_0. In conclusion, gender and election enthusiasm are independent.

Chi-Square Independence Test of Region Origin and Enthusiasm

Table 9. Chi-Square Test for Region Origin and Enthusiasm

Statistics Test	Degree of Freedom	p-value
Continuity Correction	1	1.000

Based on Table 9., observations reveal that the p-value (1.000) exceeds the predetermined alpha value (0.05). Hence, the correct decision is to fail to reject H_0. In conclusion, regional origin and election enthusiasm are independent.

Chi-Square Independence Test of Social Media Intensity and Enthusiasm

Table 10. Chi-Square Test for Social Media Intensity and Enthusiasm

Statistics Test	Degree of Freedom	p-value
Continuity Correction	1	0.017

Based on Table 10., it can be observed that the p-value (0.017) is less than the predetermined alpha value (0.05). Hence, the correct decision is to reject H_0. In conclusion, social media intensity and election enthusiasm are dependent.

CONCLUSION

Based on the results of the chi-square independence test with a significance level of 5%, the variables of gender and regional origin do not show a significant relationship with students' enthusiasm for the 2024 Indonesian elections. This means that statistically, there is no evidence of a relationship or dependence between gender and regional origin with the level of student enthusiasm. Thus, these variables do not have a meaningful reciprocal relationship with enthusiasm for elections.

In contrast, the test results show that the variable of intensity of social media use has a significant relationship with enthusiasm for elections. Students with higher intensity of social media use tend to have higher levels of enthusiasm. This finding indicates an association between exposure to social media and students' level of involvement in political events such as elections.

Based on these results, it is recommended that the government or election organizers utilize social media as one of the main strategies in disseminating information and increasing students' political awareness. Strengthening content that is informative, interactive, and in accordance with the characteristics of social media is expected to encourage active participation of students and reduce the potential for abstention in the 2024 Indonesian elections.

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