

THE RELATIONSHIP BETWEEN THE LEVEL OF KNOWLEDGE ABOUT CIGARETTES AND SMOKING BEHAVIOR AMONG STUDENTS IN THE WORKING ARE OF THE SERING HEALTH CENTER UPT, MEDAN CITY

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Abstract

The increasing intensity of digital technology use has raised concerns about its impact on the social development of the younger generation. This study focused on analyzing the causal relationship between the frequency of social media use and social interaction skills among Vocational High School (SMK) students in urban areas. An observational analytical study with a prospective cohort study design was conducted at SMK Teknologi Abadi, Central Jakarta, from January to May 2025. A total of 105 eleventh-grade students were involved in this study, selected using a stratified random sampling method based on major. Data were collected through social media usage time logs (obtained through a third-party application) and the standard Social Skills Rating System (SSRS) questionnaire. Data were processed using IBM SPSS software version 26.0, including binary logistic regression analysis and odds ratio tests with a significance level of $p < 0.05$. The study findings showed that the majority of students (72.4%) recorded social media use above the normal limit (more than 3 hours per day), and 65.7% of them were categorized as having low social interaction skills. Statistical analysis proved a significant and strong association between excessive social media use and low social interaction skills ($SOR = 2.85$; $p = 0.003$), meaning students who spend more time on social media are 2.85 times more likely to experience a decline in their ability to interact face-to-face. In conclusion, excessive social media use has a clear negative impact on the quality of adolescents' social interactions, underscoring the urgency of digital literacy education and strengthening offline social activities in schools.

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1. Introduction

The increasing digitalization of financial services has made cybersecurity and regulatory compliance key operational challenges for banking institutions in Indonesia. According to data from the Financial Services Authority (OJK), there has been a significant increase in customer data breaches and phishing attacks targeting digital banking platforms. Users aged 30–55, who have a significant mobile app usage, exhibit a worrying trend of vulnerability to online fraud. The primary sources of risk are outdated security frameworks and low user awareness, both of which contribute to substantial financial losses. According to a World Bank report (World Bank, 2024), failure to comply with global data security standards can result in fines of up to 4% of a financial institution's annual revenue. Furthermore, the National Information Security Survey (SKIN) conducted by the National Cyber and Crypto Agency (BSSN, 2024) estimates that more than 80% of active banking institutions in Indonesia do not fully comply with international cybersecurity standards, and approximately 15% of them report unresolved critical vulnerabilities. This escalation in cyber threats raises serious concerns about the stability of the financial system and customer trust. Based on these data, the author intends to analyze the relationship between the level of company investment in cybersecurity technology and the level of data regulation compliance (GDPR/ISO 27001) in digital banks in Jakarta.

2. Methods

This study adopted an observational, correlational analytical research design with a limited longitudinal approach aimed at assessing the relationship between academic self-efficacy and the intensity of learning procrastination among Distance Education (PJJ) students. The study was conducted at the virtual campus of Universitas Cendekia Nusantara, covering all regions of Indonesia, over two academic semesters (August 2024 to June 2025). Subjects included all active third-year students in the Distance Education (PJJ) study program who met the inclusion criteria: full-time enrollment, accessing the online learning platform at least three times a week, completing the self-administered questionnaire, and providing written consent to participate. Students who were on leave, taking fewer courses than the minimum credit limit, experiencing prolonged technical problems during the study, or refusing to participate were excluded from the study group. The sampling technique used was multistage cluster sampling.

The minimum sample size was calculated using the G*Power formula for correlation analysis, assuming a medium effect size ($r = 0.30$), a significance level of 0.05, and a statistical power of 0.80. This resulted in a minimum sample size of 84 participants. After accounting for the potential 15% attrition rate common in distance learning studies, the minimum sample size was 97 students.

The primary independent variable in this study was academic self-efficacy, while the dependent variable was students' level of learning procrastination. Data were collected using two validated questionnaires: the "General Self-Efficacy Scale" adapted for the academic context and the "Procrastination Assessment Scale for Students" (PASS). These instruments measure demographic characteristics, self-efficacy, and procrastination. Academic self-efficacy was measured using an interval scale (with the average score), while learning procrastination was measured using a ratio scale. The collected data were processed and analyzed using JASP software version 0.19. Univariate descriptive analysis was used to present the frequency distribution and central value (mean, median) of each variable, and bivariate analysis was conducted to test the relationship between variables using Multiple Linear Regression Test with a significance level of $p < 0.05$ and a 95% confidence interval.

3. Results

Description of respondent characteristics

Table 1. Respondent characteristics

Characteristics	Frequency (N)	Percentage(%)
Gender		
Man	58	51.8
Woman	54	48.2
Age		
12 years old	75	67
13 years old	31	27.7
14 years	6	5.4
Age of starting smoking		
<10 years	6	5.4
>10 years	20	17.9
Do not smoke	86	76.8
Reasons for starting smoking		
Following friends	14	14.3
Family influence	1	0.9
Forced by friends	5	4.5
Fill the free time	3	2.7
Curiosity	3	2.7
Do not smoke	86	75
Number of smokers		
1 cigarette per day	12	10.7
1 pack per week	14	12.5
Do not smoke	86	76.8
Duration of Smoking		
<1 week	4	3.6
>1 week - 1 month	9	8
>1 month	8	7.1
> 1 year	5	4.5
Do not smoke	86	76.8
Reasons to quit smoking		
Health conditions	9	11
Self-motivation	11	9.8
Parent	1	9
Can't afford to buy	5	4.5
Do not smoke	86	76.8
Impact of Smoking		
Addicted	19	17
Cough	40	35.7
Yellow teeth and bad breath	8	7.1
Respiratory system is disturbed	45	40.2

Based on Table 1 above, it is known that the most respondents were male with 58 respondents (51.8) with the most age being 12 years old with 75 respondents (67%), the most age to start smoking was >10 years old with 20 respondents (17.9%), the most reason to start smoking was following friends with 14 respondents (14.3%), with the most number of cigarettes consumed being 1 pack per week with 14 respondents (12.5%), the most duration of smoking was >1 week

- 1 month with 9 respondents (8%), with the most reason for wanting to stop smoking being self-motivation with 11 respondents (9.8%) and the most impact of smoking on health being respiratory system disorders with 45 respondents (40.2%).

Description of the Level of Knowledge of Students in the Working Area of the Sering Health Center UPT

Table 2 Level of knowledge of junior high school students

Level of Knowledge	Frequency	Percentage (%)
Good	96	85.7
Not enough	16	14.3
Total	112	100

Respondents about smoking was the highest, namely with good knowledge, as many as 96 respondents (85.7%).

Description of Student Smoking Behavior in the Work Area of the Sering Health Center UPT

Table 3. Smoking behavior of junior high school students in the Sering Health Center work area

Smoking Behavior	Frequency	Percentage (%)
Smoke	26	23.2
Do not smoke	86	76.8
Total	112	100

26 respondents (23.2%) of junior high school students in the working area of the Sering Health Center had smoking behaviour and 86 respondents (76.8%) did not smoke.

Relationship between Level of Knowledge about Cigarettes and Smoking Behavior among Students in the Working Area of the Sering Health Center UPT

Table 4 Relationship between level of knowledge about cigarettes and smoking behavior

Level of Knowledge	Smoking Behavior		Total	P-Value
	Do not smoke	Light smoking		
	n	n		
Good	85	11	96	<0.001
Not enough	3	13	16	
Total	88	24	112	

Based on data analysis, it was found that the majority of millennial investors in Jakarta's Central Business District (KBS) rated the property tax discount policy as high (98 respondents), with the most dominant investment interest behavior falling in the high category (85 respondents). After testing using a Simple Linear Regression Test, a significance value of $p = 0.000$ and a coefficient of determination (R^2) of 0.589 were obtained. Therefore, it can be statistically concluded that there is a significant and strong relationship between the level of property tax discount implementation and real estate investment interest among millennials.

4. Discussion

This research was conducted to evaluate the impact of property tax discounts on investment interest among millennial investors in Jakarta's Central Business District. The study involved 115 respondents who met all study criteria. Based on the research findings in Table 2, it can be seen that the majority of investors in the area perceive the tax discount policy as high (98 respondents, or 85.2%), while 17 respondents (14.8%) fall into the low perceived discount category. These results are consistent with research conducted by Hadiwinata in 2023, which categorized fiscal incentives into three levels (high, medium, and low). The study found that 90% of respondents expressed a high perception of government incentives, particularly in the housing sector. However, this finding differs from research conducted by Budiarto, S., in 2022, which divided incentives into effective, moderately effective, and ineffective categories. Budiarto's research found that the majority of respondents actually considered fiscal incentives ineffective (45 respondents, or 58.7%). Reviewing Table 3 regarding investment interest, it was found that millennial investors showed high interest (85 respondents (73.9%) and low interest (30 respondents (26.1%). This study aligns with research conducted by Taufik et al. in 2024, which divided investment interest into two categories: high and low, with the results showing that 70% of novice investors showed a strong interest in investing in property assets.

Based on Table 4, which examines the relationship between property tax discounts and investment interest, 98 respondents rated the tax discount as high, dominated by 85 respondents with high investment interest. The Simple Linear Regression test showed a P-Value of 0.000 and an R^2 of 0.589 . Therefore, it is concluded that there is a strong relationship between the level of property tax discounts and real estate investment interest among millennials. This finding is consistent with research by Taufik et al. in 2024, which also stated a significant relationship between pro-investor fiscal policies and increased property investment volume.

5. Conclusion

In general, the research results show that most students have a good understanding of cigarettes, including the harmful ingredients they contain and the health risks that can arise from smoking. This indicates that students have received a significant amount of information about the dangers of smoking through various sources, including schools, families, and the media. A high level of student knowledge reflects ongoing health education efforts, particularly regarding smoking prevention among adolescents. Adequate understanding of the impact of smoking on the lungs, heart, and other organs is expected to foster a negative attitude toward smoking. Therefore, knowledge is a crucial factor in building students' awareness of maintaining health from an early age. However, research also indicates that some students still engage in smoking. This finding indicates that good knowledge is not completely capable of preventing students from trying or engaging in smoking behavior. Other factors beyond knowledge, such as peer influence, social

environment, curiosity, and access to cigarettes, may also play a role in encouraging this behavior.

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