

TAPS Ban and Media Literacy to Protect Youth from Tobacco Industry Inducement

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ABSTRACT

Background: The Indonesia Health Survey 2023 indicates that approximately 70 million people in the country smoke, with 7.2% aged 10 to 18 years. Central Java province reports one of the highest prevalence rates among children in Indonesia at 9.6%. Tobacco Advertising, Promotion, and Sponsorship (TAPS) influence the intention to smoke, while Smoking Media Literacy (SML) can serve as a protective factor for youth against inducements from the tobacco industry. **Methods:** This study aims to evaluate the impact of TAPS exposure and SML on smoking intention. A cross-sectional design was employed, involving 1,014 students from ten junior high schools, eleven high schools, and five universities located in three primary municipalities of Central Java Province. Participants were selected using stratified sampling, and data were collected through a self-administered questionnaire. **Results:** The students most frequently encountered TAPS through outdoor media such as billboards and banners, followed by displays at points of sale and online platforms like social media and websites. Logistic regression analysis revealed that exposure to TAPS increases the likelihood of smoking intention by approximately 55% (OR 1.55, CI 1.16-2.07). Age and gender also influence smoking intention; older youths are more likely to intend to smoke (OR 1.53, CI 1.12-2.10), while females are less likely to have the intention compared to males (OR 0.20, CI 0.15-0.27). Higher media literacy is associated with a decreased likelihood of intending to smoke (OR 0.60, CI 0.40-0.89). Furthermore, the intention to smoke is the strongest predictor of whether an individual has ever smoked (OR 9.91, CI 6.89-14.25). **Conclusion:** Exposure to TAPS significantly increases the likelihood of smoking intention among youth, while higher media literacy offers a protective effect. Strategies such as media literacy education and comprehensive TAPS bans are essential to curb the rising tobacco use among young people.

Keywords: Smoking Media Literacy, Tobacco Advertising, Promotion, and Sponsorship (TAPS), Youth, Indonesia

INTRODUCTION

Young smokers have become a significant concern, as they are likely to exacerbate national health problems in the future. Recent data from the Indonesian Health Survey shows that while the smoking prevalence among youths aged 10-18 decreased slightly from 9.1% in 2018 to 7.4% in 2023, this still translates to

approximately 5.9 million young smokers—an increase from 4.1 million in 2018. Similarly, adult smoking rates have risen, with the number of smokers over 15 years old increasing from 57.2 million in 2013 to 63.1 million in 2023. Moreover, Central Java province has a higher prevalence of child smokers (9.6%) than the national average (Health Development Policy

Agency, 2023; Health Research and Development Board, 2013).

One of the most significant contributors to youth smoking is the aggressive marketing tactics employed by tobacco companies. Tobacco Advertising, Promotion, and Sponsorship (TAPS) have long been recognized as powerful tools used by the industry to attract new users and sustain existing smokers (Evans *et al.*, 1995); (Isip and Calvert, 2020); (Unger *et al.*, 2001); (Strong *et al.*, 2017). The tobacco industry skillfully and subtly markets cigarettes to influence adolescents by promoting appealing images of smoking, with media further stimulating tobacco use among youth (Wellman *et al.*, 2006). Research indicates that tobacco marketing can be more influential in encouraging adolescents to initiate smoking than peer or family smoking, or socio-demographic factors (Evans *et al.*, 1995). Non-smoking adolescents exposed to cigarette advertisements or who accept such marketing are more likely to try cigarettes and become smokers in the future (Lovato, Watts and Stead, 2011). The perception that cigarette advertising targets adolescents, along with attitudes toward advertising, cigarette promotion, and sponsorship (TAPS), are consistently associated with smoking status (Prabandari and Dewi, 2016).

Studies show that students in schools with medium and high levels of outdoor tobacco advertising are up to 2.16 times more likely to smoke than those in schools with low levels. Similarly, adolescents at senior high schools near outdoor tobacco advertisements are 2.8 times more inclined to smoke. Furthermore, adolescents attending schools in economically disadvantaged neighborhoods with higher density and proximity to outdoor tobacco advertising are up to 5.16 times more likely to engage in smoking (Handayani *et al.*, 2021); (Nurjanah *et al.*, 2020).

In addition to conventional marketing, cigarette companies increasingly use online media, which is more difficult to regulate. Engagement with online tobacco marketing poses a significant risk factor for adolescent tobacco use (Soneji *et al.*, 2018). Youth who have seen advertisements and promotions for e-cigarettes on social media are 2.91 times more likely to have

ever used e-cigarettes and 2.82 times more likely to currently use them, even after controlling for socioeconomic factors (Wulan *et al.*, 2022).

Despite recent developments such as Government Regulation Number 28, 2024, Indonesia's tobacco control regulations remain relatively weak regarding the TAPS ban. While this regulation aims to strengthen measures against tobacco advertising, promotion, and sponsorship, its scope and enforcement are limited, leaving many gaps open to industry influence. Existing laws still permit direct and indirect marketing through channels such as television (from 10 p.m. to 5 a.m.), outdoor advertising, online and social media, point-of-sale advertising, branded merchandise, and event sponsorship. Enforcement is often inconsistent due to limited resources and regulatory weaknesses, allowing tobacco marketing to continue influencing youth and vulnerable populations. This inadequate regulatory framework hampers efforts to reduce smoking prevalence and protect public health in Indonesia.

While policy measures like bans are crucial, they may not be sufficient on their own. Industry tactics adapt rapidly, especially through digital and social media, making regulation more challenging. Media literacy plays a vital role as a complementary strategy. Media literacy involves equipping young people with skills to critically analyze media content, recognize marketing strategies, and understand the motives behind promotional messages. It enables youth to resist manipulative advertising and make informed health decisions (Levin-Zamir and Bertschi, 2018); (Silverblatt, 1996); (Sudo and Kuroda, 2017).

Research supports the significant impact of media literacy education. It fosters critical thinking, and numerous studies show that media literacy can substantially reduce the influence of tobacco advertising on adolescents. Youths with higher media literacy skills are less susceptible to tobacco marketing and less likely to initiate smoking (Bier, Zwarun and Sherblom, 2016); (Bier, Zwarun and Fehrmann Warren, 2011); (Primack and Hobbs, 2009); (Primack *et al.*, 2006); (Salgado *et al.*, 2012); (Shensa *et al.*, 2016).

This study aims to evaluate the impact of TAPS exposure and Smoking Media Literacy (SML) on smoking intention and behavior. Demographic factors such as age and gender will also be examined in the analysis.

METHODS

This study employed an observational, cross-sectional design with stratified sampling to assess tobacco-related behaviors among students. A total of 1,014 participants were selected from ten junior high schools, eleven senior high schools, and five universities in Semarang City, Pekalongan Regency, and Banjarnegara Regency, Central Java Province. The sampling ensured a representative distribution across different educational levels. Stratified sampling was used based on the levels of education—junior high schools, senior high schools, and universities—with the number of participants from each group proportionally allocated according to the estimated student populations within each educational level in the study regions.

Data collection was conducted using a self-administered questionnaire, which included sections on demographics (5 questions), influence of promotional activities (15 questions), smoking media literacy (9 questions), smoking intention (3 questions), and smoking behavior (3 questions). The SML and intention questionnaires utilized standard instruments from (Shensa et al., 2016) and (Ford et al., 2009). Participants under the age of 18 provided parental informed consent prior to participation to ensure ethical compliance.

Data were analyzed using logistic regression to identify factors associated with intention to smoke and smoking behavior outcomes. Two separate models were constructed: one to examine factors influencing the intention to smoke, and another to assess determinants of smoking behavior. Independent variables included demographic factors (gender, age, and education), exposure to tobacco advertising, and smoking media literacy. Results are presented as odds ratios (ORs) with 95% confidence intervals (CIs). A significance level of $p < 0.05$ was adopted for all statistical tests. All analyses were performed using STATA version 18. The study received ethical approval from the

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RESULTS AND DISCUSSION

Table 1. Characteristics, intention to smoke and smoking behavior of responden

Variable	Category	f	%
Sex (n=1014)	male	417	41.12
	female	597	58.88
Age (n=1014)	<18	729	72.18
	≥18	281	27.82
Education (n=1014)	Junior High School	372	36.69
	Senior High School	396	39.05
	University	246	24.26
Intention to smoke (n=1014)	No	647	63.81
	Yes	367	36.19
Ever Smoking (n=1014)	No	742	73.18
	Yes	272	26.82
Types of cigarettes (n=267)	Cigarette	117	43.82
	E-Cigarette	63	23.60
	Dual user	87	32.58

The study sample comprised 1,014 students, with a higher proportion of females than males, and most participants being under 18 years old. Participants were distributed across different educational levels, including junior high, senior high, and university students.

Smoking Intention and Behavior

Regarding smoking intentions and behaviors, 36.19% of students expressed the intention to smoke, while 26.82% had smoked. Among those with smoking experience, many had used conventional cigarettes, e-cigarettes, or both simultaneously.

Compared to national data from the Global Youth Tobacco Survey (GYTS) and the Indonesian Health Survey, the findings from this study reveal concerning trends in youth smoking behaviors. The GYTS reports that Indonesia has one of the highest smoking prevalence rates among youth in Southeast Asia, with a significant proportion of adolescents expressing intent to smoke and engaging in tobacco use. Similarly, the Indonesian National Health Survey indicates increasing patterns of tobacco consumption, including rising use of alternative products like e-cigarettes and dual usage of multiple tobacco products among young people

(Gyts, 2019); (Health Development Policy Agency, 2023).

The percentages of smoking intention (36.19%) and tobacco use (26.82%) in this study, particularly the high rate of dual use, illustrate how tobacco consumption is evolving in Indonesia. These results suggest that young people's habits are aligned with national trends. This highlights the need to focus our efforts and regulations on controlling tobacco use, especially as an increasing number of individuals are using both traditional and electronic nicotine products. These data underscore the importance of implementing comprehensive strategies, including media literacy initiatives, to protect Indonesian adolescents from initiating tobacco use and to prevent non-communicable diseases

(Bier *et al.*, 2011); (Hidayatullaili, Musthofa and Margawati, 2023); (Sugiarto, Ayubi and Martha, 2020).

TAPS Exposures

The exposure to tobacco advertising, promotion, and sponsorship (TAPS) is widespread across all three cities. Figure 1 shows that outdoor tobacco advertising, including billboards, banners, signs, and posters displayed in public spaces, remains one of the most pervasive forms of tobacco marketing. Such advertising is highly visible and accessible to a broad audience, including minors, and has been shown to increase the likelihood of tobacco initiation among youth ((Chen, Tilden and Vernberg, 2020); (Hanewinkel *et al.*, 2010); (Hamzah *et al.*, 2024).

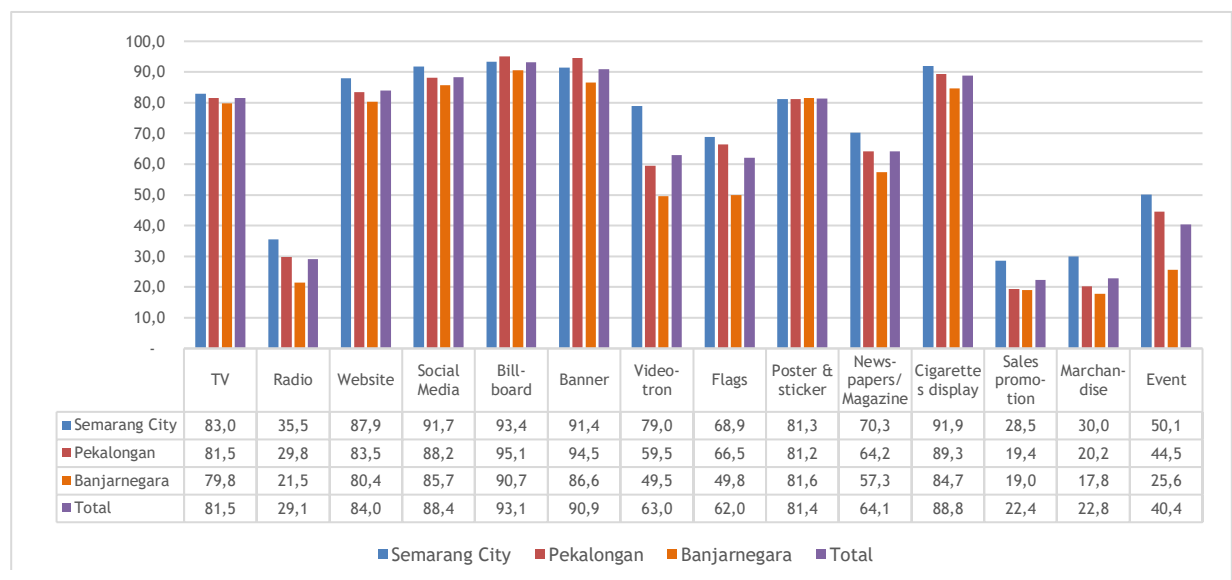


Figure 1. The tobacco advertising, promotion and sponsorship exposures

Television and online media are also significant channels for tobacco promotion, leveraging mass communication to reach larger audiences. These advertisements can create high-impact visual impressions that normalize smoking and appeal to youth. Meanwhile, online media—including social media platforms, websites, and digital video content—offer interactive and targeted advertising opportunities (Gilpin *et al.*, 2007); (Lovato, Watts and Stead, 2011); (Reynolds, 1999); (Richardson, Ganz and Vallone, 2015); (Wulan *et al.*, 2022).

To reduce youth exposure to tobacco promotion through television and online media, stricter regulations should

be enforced to ban tobacco advertising across all digital platforms. Monitoring and compliance efforts are essential to prevent the proliferation of such content, especially on social media (Audrain-McGovern *et al.*, 2003); (Evans *et al.*, 1995); (Soneji *et al.*, 2018).

Media Literacy

Media literacy is a potential tool to protect children from TAPS influences (Bier, Zwarun and Sherblom, 2016); (Bier *et al.*, 2011); (Shensa *et al.*, 2016). Table 2 shows that many young people have limited media literacy skills to critically evaluate tobacco advertising.

Although the data in Table 2 reveal varying perceptions about tobacco industry practices and media portrayals of smoking, unfortunately, low media literacy is still prevalent among respondents. For example, regarding whether tobacco companies would do anything to make money, 11.8% strongly disagree and 36.0% disagree, suggesting some skepticism about the tobacco industry's intent to maximize profit. Concerning cigarette brands targeted at children, 11.6% strongly disagree and 30.1% disagree, indicating that many do not believe companies intentionally appeal to young children. Additionally, about advertising on clothing, 15.7% strongly disagree and 49.3% disagree, showing most respondents do not see clothing logos as effective advertising.

Moreover, 21.7% strongly disagree and 33.4% disagree that cigarette ads present a healthy image to distract from health risks, while 11.0% strongly disagree and 33.2% disagree that movies make smoking appear more attractive. Overall, about half of the respondents do not recognize the tobacco industry's tactics to target and induce young people, highlighting a gap in media literacy and awareness of industry strategies to encourage youth to become smokers.

Table 2. Smoking Media Literacy items (%), n=1014

Smoking Media Literacy items	Very dis-agree	Dis-agree	Agree	Very agree
1. To make money, tobacco companies would do anything they could get away with.	11,8	36,0	43,3	8,9
2. Certain cigarette brands are specially designed to appeal to young children	11,6	30,1	43,2	15,1
3. Cigarette ads try to link smoking to things that people want like love, beauty, and adventure.	13,6	35,4	38,5	12,5
4. Wearing a shirt with a cigarette logo on it makes a person into a walking advertisement.	15,7	49,3	27,8	7,2
5. There are often hidden messages in cigarette ads.	8,0	24,8	54,4	12,8
6. Movie scenes with smoking in them are constructed very carefully.	7,7	25,2	54,7	12,4
7. Cigarette ads show scenes with a healthy feel to make people forget about the health risks.	21,7	33,4	31,3	13,6
8. Most movies and TV shows that show people smoking	11,0	33,2	44,8	11,1

Smoking Media Literacy items	Very dis-agree	Dis-agree	Agree	Very agree
make it look more attractive than it really is.				
9. When you see a smoking ad, it is very important to think about what was left out of the ad.	6,4	20,3	50,2	23,1

Such low levels of media literacy suggest that these youths are less likely to critically evaluate tobacco advertising or question the glamorized images of smoking presented in the media. Without this awareness, they may be more impressionable and susceptible to tobacco marketing, which could increase their risk of initiation (Primack *et al.*, 2006), (Primack and Hobbs, 2009); (Salgado *et al.*, 2012); (Sudo and Kuroda, 2017).

Factors Influencing Smoking Intention

The analysis of factors influencing the intention to smoke reveals several significant associations (Table 3). Higher media literacy is associated with a decreased likelihood of intending to smoke, with an odds ratio of 0.60, indicating that youths with greater media literacy are less likely to plan to smoke. Conversely, exposure to tobacco advertising, promotion, and sponsorship (TAPS) increases the odds of intending to smoke by approximately 55%, highlighting the strong impact of marketing exposure on smoking intentions.

Table 3. The factors influencing intention to smoke

Intention	Odds ratio	95% CI	p
Media literacy	0.60	0.40 0.89	0.012
TAPS exposures	1.55	1.16 2.07	0.003
Ages	1.53	1.12 2.10	0.008
Gender	0.20	0.15 0.27	0.000
Cons	3.44	1.55 7.64	0.002

Age also plays a role, with older youths being more likely to intend to smoke, reflected in an odds ratio of 1.53. As youths grow older, they often experience changes in social influences, attitudes, and perceptions toward smoking. Older youths may have increased exposure to peer pressure, media, and social environments where smoking is more common or viewed as acceptable. They are also more likely to encounter situations

where smoking is present, such as social gatherings or media portrayals, which can influence their attitudes and intentions. Additionally, cognitive development during adolescence can affect decision-making, risk perception, and susceptibility to peer influence, making older youths more likely to consider smoking (Suwarni *et al.*, 2022); (Napirah *et al.*, 2020)(Mathews *et al.*, 2011); (Starr *et al.*, 2007); (Van Minh *et al.*, 2011).

Gender differences are notable; females are significantly less likely to intend to smoke compared to males, with an odds ratio of 0.20. This difference may be influenced by cultural, social, or behavioral factors; for example, females might face greater social disapproval related to smoking or may have different perceptions of smoking risks and norms (Suwarni *et al.*, 2022); (Ng, Weinehall and Öhman, 2007). These findings underscore the importance of considering gender-specific approaches in tobacco prevention efforts. Other factors, such as overall constant effects, did not show significant influence. These findings emphasize that enhancing media literacy and reducing TAPS exposure could be effective strategies in lowering smoking intentions among youth.

Factors Influencing Smoking Behavior

Table 4 analyzes the factors influencing smoking behavior and indicates that intention is a strong predictor, with individuals who have the intention being approximately ten times more likely to have ever smoked. This significant association underscores the importance of addressing smoking intentions early to prevent actual smoking initiation. Interestingly, media literacy, TAPS exposure, and age do not significantly impact whether someone has ever smoked in this model. Gender remains a significant factor, with males less likely to have ever smoked than females.

Table 4. The factors influencing smoking behavior

Ever smoke	Odds ratio	95% CI	p
Intention	9.91	6.89 14.25	0.000
Media Literacy	1.04	0.64 1.68	0.880
TAPS Exposure	1.10	0.77 1.59	0.595
Age	1.39	0.94 2.05	0.098
Sex	0.23	0.16 0.33	0.000

Ever smoke	Odds ratio	95% CI	p
Cons	0.55	0.20 1.51	0.248

While media literacy, TAPS exposure, and age significantly influence the intention to smoke, they do not have a direct significant effect on smoking behavior itself within this model. This suggests that these factors primarily affect the decision-making process or the formation of the intention to smoke, rather than the actual smoking behavior. Conversely, the intention to smoke is the most potent predictor of whether an individual has ever smoked, underscoring the importance of early intervention targeting attitudes and perceptions to prevent initiation. Gender consistently influences both intentions and behavior, indicating that gender-specific factors should be considered in tobacco control efforts.

In this context, intention might serve as a mediating factor between independent variables and smoking behaviors, a relationship that can be examined through Structural Equation Modeling (SEM) in future analyses. Modeling intention as a mediating variable aligns with theoretical frameworks such as the Theory of Planned Behavior, where intention is a key predictor mediating the effects of various antecedents on actual behavior (Pashaeypoor *et al.*, 2019); (Talip *et al.*, 2016).

CONCLUSION

Various factors influence youth smoking intentions and behaviors. The findings reveal that low media literacy increases vulnerability to tobacco marketing, while exposure to tobacco advertising and promotion significantly heightens the likelihood of intending to smoke. Although these factors do not directly predict smoking behavior, the strong association between smoking intention and actual smoking underscores the critical importance of early preventive measures. Gender and age differences further highlight the need for gender- and age-specific interventions.

Overall, targeted strategies such as media literacy education and a comprehensive TAPS ban are essential to curb the rising trend of tobacco use among

Indonesian youth. The TAPS ban should encompass all media, including outdoor advertising, digital media, print, product displays, television, radio, and events sponsored by the tobacco industry.

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