



Smoking behavior analysis on teenagers in Kulon Progo Yogyakarta

Sujono Riyadi^{1*}, Sutipyo Ru'iyah²

¹Departement of Nursing, Faculty of Health, Jenderal Achmad Yani University Yogyakarta

Jalan Brawijaya, Ambarketawang, Gamping, Sleman, Yogyakarta

²Faculty of Islamic Religion, Ahmad Dahlan University Yogyakarta

Jalan Kapas No.9, Semaki, Kec. Umbulharjo, Kota Yogyakarta, Yogyakarta

*Corresponding author : sujono_kmpk2005@yahoo.com

ABSTRAK

Latar Belakang: Perilaku merokok remaja dari hari ke hari semakin meningkat. remaja yang awalnya tidak merokok menjadi perokok karena lingkungan sekitar remaja banyak yang tidak mengindahkan norma subjektif. Ditambah dengan pengaruh keluarga perokok meningkatkan kekuatan remaja untuk bersikap negatif terhadap merokok.

Tujuan: Penelitian ini bertujuan untuk mengetahui pengaruh secara langsung maupun tidak langsung sikap, norma subyektif dan niat terhadap perilaku merokok remaja di Kulon Progo Yogyakarta.

Metode: Penelitian ini berbentuk kuantitatif, dilakukan di Kulon Progo Yogyakarta. Populasi ada 59.588 remaja, setelah dihitung dengan rumus Slovin di dapatkan 400 sampel. Variable berupa sikap, norma subyektif, niat dan perilaku merokok. Data diperoleh dengan menyebarkan kuesioner yang sudah valid dan reliabel kepada 400 responden, 200 perokok dan 200 tidak merokok, kemudian dianalisis dengan menggunakan analisis jalur menggunakan stata 13.

Hasil: Terdapat pengaruh langsung sikap remaja terhadap tidak merokok ($p < 0,001$) dan niat tidak merokok pada remaja ($p < 0,001$) terhadap perilaku merokok pada remaja di Kulon Progo Yogyakarta.

Kesimpulan: Terdapat pengaruh tidak langsung antara norma subjektif tidak merokok melalui sikap tidak merokok dan niat tidak merokok terhadap perilaku merokok pada remaja di Kulon Progo Yogyakarta.

KATA KUNCI: norma subjektif; sikap; niat; remaja

ABSTRACT

Background: Adolescent smoking behavior from day to day is increasing. Teenagers who initially did not smoke became smokers because the environment around them did not heed subjective norms. Coupled with the influence of smoking, families increases the power of adolescents to be negative towards smoking.

Objectives: This study aimed to determine the direct or indirect effect of attitude, subjective norm, and intention on adolescent smoking behavior in Kulon Progo Yogyakarta.

Methods: This research is quantitative in form, conducted in Kulon Progo Yogyakarta. The population was 59.588 adolescents, after being calculated by the Slovin formula obtained 400 samples. Variable in the form of attitude, subjective norm, intention, and smoking behavior. The data were obtained by distributing valid and reliable questionnaires to 400 respondents, 200 smokers and 200 non-smokers, then analyzed using a path analysis using Stata 13.

Results: There was a direct influence on adolescent attitudes towards not smoking ($p < 0.001$) and intention to not smoke in adolescents. ($p < 0.001$) on smoking behavior in adolescents in Kulon Progo Yogyakarta.

Conclusions: *There is an indirect influence between subjective norms of not smoking through non-smoking attitudes and non-smoking intentions on smoking behavior among adolescents in Kulon Progo Yogyakarta.*

KEYWORD: *subjective norms; attitude; intention; an adolescent*

Article Info :

Article submitted on August 10, 2021

Article revised on September 27, 2021

Article received on October 01, 2021

DOI: [http://dx.doi.org/10.21927/jnki.2021.9\(3\).183-189](http://dx.doi.org/10.21927/jnki.2021.9(3).183-189)

INTRODUCTION

Smoking behavior is a global problem. Each country's characteristics always face issues with its citizens' behavior that does not follow health standards. These unhealthy behaviors include smoking, drinking, free sex, drugs, and others. In Vietnam, for example, many people smoke, mostly migrants from rural areas to urban areas (1). Smoking behavior in Indonesian society from year to year has always increased; from 2007 to 2013, people aged 15 years and over increased from 34.2% to 36.3%. Male smokers are 64.9%, and there was 2.1% female. The average number of cigarettes smoked is around 12.3 cigarettes; this varies significantly from the lowest being ten cigarettes in the Special Region of Yogyakarta and the highest in Bangka Belitung (18.3 sticks). This smoking behavior is based on research conducted by Sajinadiyasa (2) can cause various diseases, including pulmonary tuberculosis (76.1%), pneumonia (55.6%), asthma (41.7%). The number of toxins in cigarettes in various health studies has been shown to damage and endanger health. It even kills its users slowly, even though Allah has spoken:

..... وَلَا تَقْتُلُوا أَنْفُسَكُمْ إِنَّ اللَّهَ كَانَ بِكُمْ رَحِيمًا

“ And don't kill yourselves; verily Allah is Most Merciful to you.” (QS. *An-Nisaa*: 29).

يَأْمُرُهُمْ بِالْمَعْرُوفِ وَيَنْهَاهُمْ عَنِ الْمُنْكَرِ وَيُحِلُّ لَهُمُ
الطَّيِّبَاتِ وَيُحَرِّمُ عَلَيْهِمُ الْخَبَائِثَ

“.... Who ordered them to do what was ma'ruf and forbade them from doing what was wrong, and made lawful for them all that was good and forbade them all that was bad ...” (QS. *Al-A'raf*: 157)

Research conducted by the Kulon Progo Regency Government in 2017 in collaboration with Nanyang Technology University found that of the 15,000 junior high school students in Kulon Progo, 800 junior high school youth (5.3%) were smokers (3). This is a relatively high number, so it is necessary to find the best solution to decrease this number. Various physical and psychological changes mark adolescence. These changes will cause problems for adolescents if not accompanied by a good self-understanding of these changes. Youth is a transitional period between childhood and adulthood. Several changes are universal for adolescents, including that adolescent are more likely to prioritize emotions, changes in body shape, interests, and expected social roles, and adolescents tend to want freedom (4).

Freedom for adolescents is a form of looking for an identity, how other people believe in their existence. It is in this process of self-discovery that adolescents are encouraged by sociocultural. The compensatory form and symbolization of some teenagers are expressed by smoking behavior. This smoking method is considered a symbol of maturity, strength, leadership, and attraction to the opposite sex. Many factors cause

adolescents to smoke, including close friends and parents who smoke (5), intention, attitude, and subjective norms for smoking behavior (6). Changing this behavior is not an easy thing (7), It requires comprehensive efforts both internally and externally from the youth themselves. The purpose of this research is that the writer wants to analyze the influence directly or indirectly between subjective norms, attitudes, and intentions of adolescents on smoking behavior.

MATERIALS AND METHODS

This research was conducted from April to August 2018 with a quantitative research design, carried out using a cross-sectional approach (8). Cross-sectional approach seeks to find the relationship between variables whose data is collected through questionnaires filled out by respondents whose results allow for generalization. Pendekatan The cross-sectional berusaha menemukan hubungan antar variable yang datanya dukumpulkan melalui kuesioner yang diisi oleh responden yang hasilnya dimungkinkan untuk digeneralisasi. population is youth in Kulon Progo, with as many as 59,588 people. Sampling was calculated using the Slovin formula, taken as many as 400 adolescents who were subjects in this study, then divided into 200 adolescents who smoke and 200 adolescents who do not smoke. This sample size ensures that all respondents are willing to provide data, because the researcher immediately looks for other respondents if a respondent who is asked to provide data at that time is not willing. The sampling technique used stratified random sampling was carried out on junior high and high school students / equivalent spread over 12 sub-districts in Kulon Progo Yogyakarta with a proportional random sampling technique. The questionnaire was created and developed by researchers based on attitude variables, subjective norms, and the intention not to smoke. These three variables are adapted

from the theory of Planned Behavior (TPB) by Ajzen (9). Attitude variable consists of three dimensions of affective, cognitive, and conative. The subjective norm variable consists of two dimensions, namely community culture and self-confidence. The intention variable consists of the dimensions of threat appraisal and coping appraisal. All questionnaires were tested for validity and reliability first. There are 13 variable attitude statements declared valid with $\alpha = 0.675$, subjective norm variables there are 9 valid items with $\alpha = 0.694$ and the intention variable there are seven valid statement items with $\alpha = 0.773$. The data were obtained by giving questionnaires to the subjects and observing several subjects between the case group (smoking) and the control group (non-smoking). The analysis in this study uses path analysis (10) by analyzing one variable's influence and another using the STATA 13 program (11).

RESULTS AND DISCUSSION

In Kulon Progo there has been a Regional Regulation on Non-Smoking Areas which has been implemented in various agencies. One of the real implementations of the Regional Regulation is the prohibition of advertising and sponsoring cigarettes in various activities such as music performances or sports activities.

Respondents in this study were students who attended junior high and high school levels in Kulon Progo. The distribution of respondents is in 12 sub-districts consisting of 87 villages and one kelurahan. The age of the respondents ranged from 12 years to 16 years. The economic condition of the respondents' parents with low income is below the minimum wage, namely 51% and only a small portion of them have high income. However, in reality, smoking behavior, especially among adolescents, is still relatively high.

To reveal the direct or indirect influence of attitude, subjective normal and intention to

smoking behavior of adolescents in Kulon Progo, this study was analyzed quantitatively. The data collected are then processed and analyzed, and discussed to make it easier to understand what factors contribute to adolescents who smoke behavior. The results and discussion can be seen in the following table.

In **Table 1**, the results show that adolescents who smoke are caused by the lack of support from the community, or in other words that the subjective norms that apply and are mutually agreed upon by the community where adolescents are located do not support adolescents to behave healthily by not smoking 76%. When a teenager lives in a society that is not indifferent to the norms that apply in the community, it will cause the teenager to be more willing to smoke. In the adolescent attitude variable for not smoking, the results showed that 69.4% of adolescents had a positive attitude not to smoke. This means that the more positive adolescents do not smoke, the higher the non-smoking behavior of adolescents. In the variable of adolescents' intention to not smoke, the results show that the stronger the adolescent's intention not to smoke, the higher the adolescent's non-smoking behavior, namely 76.2%.

Research on the effect of attitudes on quitting smoking in young adults in Chongqing China, there were 30.97% of men did not think about quitting smoking (12). The path analysis

test results using the STATA 13 program can be seen in the following figure.

As seen in **Figure 1**, path analysis shows that smoking behavior is directly influenced by two variables: intention and attitude. At the same time, subjective norm variables also indirectly influence both intention and attitude. When viewed from the results of the coefficients on each pathway, there is a direct negative influence between the intention of not smoking ($b = -2.11$) on adolescent smoking behavior. There is a negative influence between the attitude not to smoke ($b = -0.85$) on smoking behavior. There is an indirect positive effect of subjective norms through attitude ($b = 2.21$) on smoking behavior. There is also an indirect influence between subjective norms through intention ($b = 2.73$) on smoking behavior. For more details relating to the path analysis test results, it can be noted in Table 2 below.

In **Table 2**, it can be explained that there is a significant direct effect of no smoking intention on adolescent smoking behavior in Kulon Progo with $p < 0.001$. Research conducted by Su et al (13) in China found that adolescents who live in rural areas play a significant role in influencing other teenage friends to strengthen their intention to smoke. Peer influence automatically increases adolescents' intention to smoke behavior and follows other friends who have previously smoked (13). A direct effect on adolescent non-smoking

Table 1. The Influence of Independent Variables on Smoking Behavior of Adolescents in Kulon Progo Yogyakarta with the Chi-Square Test

Independent Variable	Smoke		Do not smoke		Total		OR	p*
	n	(%)	n	(%)	n	(%)		
Subjective norms of not smoking								
Does not support < 19	165	76	52	24	217	100	0.07	<0.001
Support ≥ 19	35	19.1	148	80.9	183	100		
The intention of not smoking								
Weak <31	150	78.9	40	21.1	190	100	0.08	<0.001
Strong ≥31	50	23.8	160	76.2	210	100		
No smoking attitude								
Negative < 51	136	71.2	55	28.8	191	100	0.18	<0.001
Positive ≥ 51	64	30.6	145	69.4	209	100		

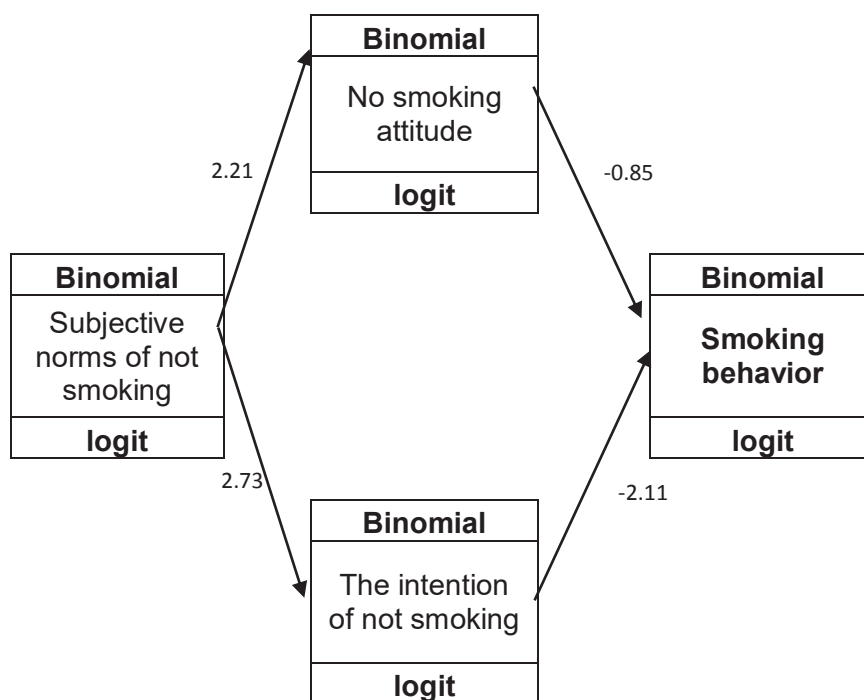


Figure 1. Path analysis of adolescent smoking behavior factors

Table 2. Results of the Analysis of the Pathway of Adolescent Smoking Behavior in Kulon Progo Regency, Yogyakarta

Variable	Path Coefficient (b)	Coeffisiet Interval/CI (95%)		P
		Lower limit	Upper limit	
Direct				
Smoking behavior ←				
The intention of not smoking	-2.11	-2.62	-1.60	<0.001
No smoking attitude	-0.85	-1.36	-0.33	<0.001
Indirect				
The intention of not smoking ←				
Subjective norms of not smoking	2.73	2.23	3.22	<0.001
Indirect				
No smoking attitude ←				
Subjective norms of not smoking	2.21	1.75	2.67	<0.001
Explanation: N Observation = 400 ← : Effect				

attitudes towards teenage smoking behavior in Kulon Progo with p-value <0.001. A teenager's perspective is a direct determinant of a person's smoking behavior (9). Attitudes can be formed by giving education through positive behavioral videos (14). A positive attitude to quit smoking will also affect adolescents' intention to stop smoking behavior (15). The interaction between people influences the formation of a person's attitude. Teens who always interact with each other will change adolescents' attitude who tend to follow

friends in the community. This peer influence is powerful in changing adolescent behavior (16).

DISCUSSION

If the youth community has a lot of negative behavior, such as smoking, young people who have just joined the community may also smoke. Besides that, there are also factors from the family environment. If a smoker's father is in a family, it will form an attitude for the child to imitate smoking behavior (17). Indirectly, there

was a significant influence between subjective norms of non-smoking on adolescent smoking behavior through non-smoking intention with $p < 0.001$ and through non-smoking attitudes with $p < 0.001$. A survey of 366 students from three Midwestern Universities in the United States states that there is an indirect influence on subjective norms, especially among students/adolescents or peer groups that can influence someone to smoke behavior (18). Social norms in society will shape a person's behavior, starting from the composition of behavior formed in the environment of each family, then associating into a norm adopted by the surrounding community. This social relationship will also impact a person's desire to try new things he meets. The existence of women who smoke due to environmental factors and the behavior of people who smoke (19). This also does not close the possibility that many adolescents smoke because society is already indifferent to the existing norms. Male adolescents generally have a higher proportion of smoking, drinking, and sexual activity than female adolescents (20). To overcome the problem of adolescent smoking behavior is needed: First, efforts in the form of interpersonal communication so that adolescents can stop Second, health education that involves adolescents (21), by combining the needs and wants and expectations of the population. Third, intervening in sociocultural accommodation with norms that uphold health values (22).

CONCLUSION AND RECOMMENDATION

There is a direct influence on the attitude of not smoking ($P < 0.001$) and the intention of adolescents not to smoke ($P < 0.001$) on the smoking behavior of adolescents in Kulon Progo Yogyakarta. There is an indirect effect of subjective norm of not smoking ($P < 0.001$) through the attitude of not smoking and adolescents' intention not to smoke on smoking behavior in adolescents in Kulon Progo Yogyakarta.

It is recommended for all adolescents to stay away from smoking behavior, both passive and active smokers, because smoking can endanger the body's health. The next researcher can intervene in non-smoking behavior through positive behavior education with videos as presented by Kosasih and Solehati.

REFERENCES

1. Nguyen L, Rahman Z, Emerson M, Nguyen M. Cigarette Smoking and Drinking Behavior of Migrant Adolescents and Young Adults in Hanoi, Vietnam. *Journal of Adolescent Health*. 2012;12(004).
2. Sajinadiyah I, Bagiada I, Rai I. Prevalensi dan Resiko Merokok terhadap Penyakit Paru di Poliklinik Paru Rumah Sakit Umum Pusat Sanglah Denpasar. *Jurnal Penyakit Dalam*. 2010;11(2).
3. Wardoyo H. Kebanyakan dari Pedesaan, Tinggi Jumlah Perokok Remaja di Kulon Progo. Yogyakarta. *Harian Kedaulatan Rakyat*. 2017;03 Juni.
4. Ahyani L, Astuti D. *Buku Ajar Psikologi Perkembangan Anak dan Remaja*. Kudus, Jawa Tengah: Universitas Muria Kudus; 2018.
5. Mercken L, Sleddens E, Vries H, Steglich C. Choosing adolescent smokers as friends: The role of parenting and parental smoking. *Journal of Adolescence*. 2013;12(004).
6. Ganley J, Rosareo D. The smoking attitudes, knowledge, intent, and behaviors of adolescents and young adults: Implications for nursing practice. *Journal of Nursing Education and Practice*. 2013;3(1).
7. Prihatmono I, Puspasari S. Pendidikan Kesehatan dalam Pengelolaan Hipertensi pada Lansia di Posbindu Bokesan Ngemplak Sleman DIY. *Jurnal Media Ilmu Kesehatan*. 2017;6(3):199–204.
8. Murti B. *Prinsip dan Metode Riset Epidemiologi*. Edisi Revi. Surakarta: Program

- Studi Ilmu Kesehatan Masyarakat UNS; 2018.
9. Karimy M, Zareban I, Araban M, Montazeri A. An Extended Theory of Planned Behavior (TPB) Used to Predict Smoking Behavior Among a Sample of Iranian Medical Students. *Int J High Risk Behaviour Addict*. 2015;4(3).
 10. Ayuningrum I, Murti B. Aplikasi Path Analysis dan Structural Equation Model dengan STATA. Surakarta: Program Studi Ilmu Kesehatan Masyarakat UNS; 2019.
 11. Dahlan M. Mendiagnosis dan Menata Laksana 13 Penyakit Statistik: Disertai Aplikasi Program STATA. Jakarta: Sagung Seto; 2010.
 12. Xu X, Liu L, Sharma M, Zhao Y. Smoking-Related Knowledge, Attitudes, Behaviors, Smoking Cessation Idea and Education Level among Young Adult Male Smokers in Chongqing. *International Journal of Environmental Research and Public Health*. 2015;
 13. Su X, Li L, Griffiths S, Gao Y, Lau J, Mo P. Smoking behaviors and intentions among adolescents in rural China: The application of the Theory of Planned Behavior and the role of social influence. *Addictive Behaviors*. 2015;
 14. Kosasih C, Solehati T. Educational Video of the Risk on Cigarette in Increasing Knowledge and Attitude among "Little Doctors" at Elementary School. *Jurnal Aisyah: Jurnal Ilmu Kesehatan*. 2020;5(1):53–8.
 15. Akmal D, Widjanarko D, Nugraha P. Sikap Mempengaruhi Niat Berhenti Merokok pada Remaja SMA DI Kota Bima. *Jurnal Promosi Kesehatan Indonesia*. 17AD;12(1):78–91.
 16. Retnowati V. Pengaruh Teman Sebaya dan Gaya Pacaran Terhadap Perilaku Seks Pra Nikah Pada Remaja Pria. *Jurnal Promosi Kesehatan Indonesia*. 2020;15(2):75–9.
 17. Goldade K, Choi K, Bernat D, Klein E, Okuyemi K, Forster J. Multilevel predictors of smoking initiation among adolescents: Findings from the Minnesota Adolescent Community Cohort (MACC) study. *Preventive Medicine*. 2012;242–6.
 18. Yoo W, Yang J, Cho E. How social media influence college students' smoking attitudes and Intentions. *Computers in Human Behavior*. 2016;173–82.
 19. Lestari Y, Demartoto A. Perempuan dan Rokok (Kajian Sosiologi Kesehatan Terhadap Perilaku Kesehatan Reproduksi Perempuan Perokok Di Kota Surakarta). *Jurnal Promosi Kesehatan Indonesia*. 2011;6(1):67–77.
 20. Silmi F, Shaluhyah Z, Prabamukti P. Analisis Kebutuhan Pendidikan Pencegahan Perilaku Berisiko pada Remaja di Kabupaten Magelang. *Jurnal Promosi Kesehatan Indonesia*. 2020;15(2):51–8.
 21. Do Y, Shin E. Bidirectional relationship between time preference and adolescent smoking and alcohol use: Evidence from longitudinal data. *Addictive Behaviors*. 2017;
 22. Champion J, Royce C. Identifying Health Promotion Needs Among Dominican-American Adolescents. Elsevier. *Journal of Pediatric Nursing*. 2017;12–8.