

# The Influence of Advertising towards Adolescence Smoking Behavior in Indonesia

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**Abstract**---This study aimed to investigate whether marketing campaign contribute to adolescence smoking behavior in Indonesia. Sample of this research were adolescence who lived in urban and rural area in three geographic regions in Indonesia which are West Sumatra, West Java and South Sulawesi. Independent variable was factor which contributes to smoking behavior while dependent factor was smoking behavior of adolescence who classified in three groups which were non-smoker, risk smoker, and regular smoker. Data was analyzed by discriminant analysis and analysis of variance. This study found that advertising was not a significant factor contributes to adolescence smoking behavior. The significant factors were smoking is cool, friend positive reaction and friend behavior. Advertising could not be used to distinguish smoker and nonsmoker group.

**Keywords**---Adolescence, Demarketing, Marketing campaign, Smoking behavior

## I. INTRODUCTION

**T**OBACCO is one of the main revenues for Indonesia whereas cigarette tax revenues reached around IDR 90,000 billion (US\$ 8.2 billion) [1]. Tobacco industry does not only provide revenue for Indonesia but also absorbs a lot of manpower. Chamber of Commerce and Industry of Indonesia acknowledged that in 2008 the national cigarette manufacturers absorbed 600 thousand workers [2]. Indonesia ranks third in the number of smoker in the world whereas in 1995, the percentage of adolescence smoker was 13.7% [3]. This figure increased to 37.3% in 2007 [3]. Study of ministry of health of Indonesia found that 24% of smoker in Indonesia were adolescences, age 15 to 19 years old whereas the percentage tended to increase 2.8% every single year [4]. In 2006, tobacco expense was 5 times of egg and milk expense, doubled of fish expense and 17 times expense to buy meat [5].

The high prevalence of smoker is influenced by some factors. Marketing activities seems to be a main contributor toward smoking behavior. Marketing is an activity to create, promote, and deliver product to consumers [6]. Coalition for Indonesian Health acknowledged that half of adolescence

respondent said that some of their activities such as sport and concert were supported by tobacco Company [7]. Marketing campaign associated significantly to encourage adolescence to smoke [8], [9].

To cope with marketing activities, Indonesia government has issued regulation number 38 year 2000 regarding impact tobacco to healthiness. This regulation prohibited marketer to stimulate or recommend people to smoke, associate cigarettes benefit to healthiness, display people smoking, display cigarette as well as its pack in an advertising. In addition, marketer should provide warning label in the pack "Smoking can cause cancer, heart disease, impotence and disorders of pregnancy and fetal". Some efforts also done by government to reduce smoking prevalence such as: prohibit smoking in public area, ban cigarette commercial and prohibit marketer to sponsor certain activities. These efforts are called demarketing, an activity to reduce or limit consumption level of a product [6].

Though, there are many demarketing efforts done by Indonesian government, tobacco marketers still can advertise their product. The ads can be seen aired on TV after 10 pm without displaying cigarette or its pack. Nielsen Audience Measurement Data released that tobacco advertising on TV ranked second in 2011 around IDR 1,790 billion (US \$ 162.7 million) increased 14% from 2009 [10]. Billboard and shop brand are easily found along the road. Cigarettes are displayed in the shop. Smokers still smoke in public area. It could be the reason why many researchers stated that marketing activity is main contributor towards smoking behavior.

Some researchers argue that, not only marketing, but also other factors contribute to smoking behavior. The reason why respondent smoke are curiosity, friend, calm effect, cool, looks like adult and cope with bored [11]. Family and friend are significant factor contribute to predict adolescent smoking behavior [12].

## II. METHOD

Independent variables of this study were factors influencing adolescence smoking behavior. Meanwhile, dependent variables were smoker groups.

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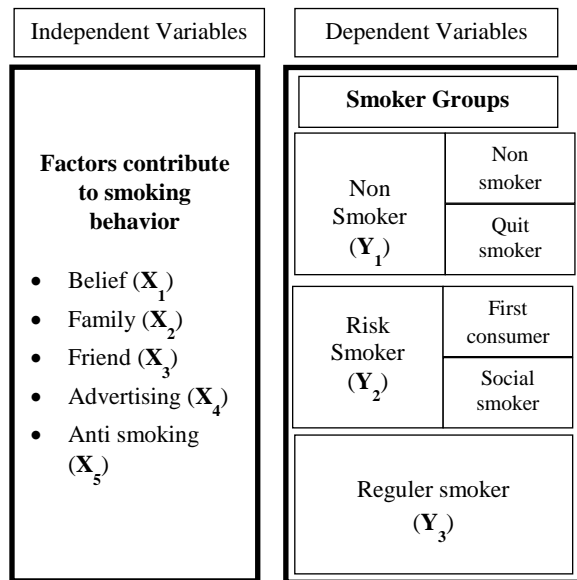


Fig. 1 Research Variables

This study proposed 13 hypotheses adopted from study conducted by Smith and Stuuts [12]:

- Belief about risk of smoking  
Adolescence believes that smoking affect healthiness and money consuming [13]. The hypotheses proposed were:  
H1: Adolescence who smoke believes that smoking is not dangerous  
H2: Adolescence who smoke believes that they will not get a problem from smoking  
H3: Adolescence who smoke believes that smoking is cool
  - Family influences  
Parent and siblings who smoke contribute to adolescence smoking behavior [14], [15]. Hypotheses proposed were:  
H4: There is a great possibility that adolescence who smoke has smoker siblings  
H5: There is a great possibility that adolescence who smoke has smoker parent
    - Friend  
Friend pressure such as request, provocation, persuasion as well as socialization can encourage adolescence to smoke [16]. Hypotheses proposed were:  
H6: There are great possibilities those adolescences who smoke, getting pressure from friend to smoke  
H7: There are few possibilities those adolescences who do not smoke, getting pressure from friend not to smoke  
H8: There are great possibilities those adolescences who smoke, have friend who smoke  
H9: There are great possibilities those adolescences who smoke, getting positive reaction from friend
      - Cigarette Ads  
Advertising can influence and even strengthen desire a kid to smoke [17]. Hypotheses proposed were:  
H10: There are great possibilities, those adolescences who smoke has been exposed by cigarette ads  
H11: There are great possibilities, adolescences who smoke pay attention to cigarette ads.

H12: There are great possibilities, adolescences who smoke, familiar with tobacco ads and cigarettes brand.

- Anti-smoking

Warning label can be seen in cigarette's pack. In addition, there are many campaigns sound a message to quit smoking. Increasing anti-smoking expose to adolescences does not affect significantly towards smoking behavior [18]. Hypothesis proposed was:

H13: Adolescence who smoke know less anti-smoking information

This study focused on adolescences smoking behavior. At this age, they are trying to start to smoke which can influence their behavior in the future. Sample of this study are Indonesian adolescence who live in urban and rural area in three geographic regions in Indonesia which were West Sumatra, West Java and South Sulawesi.

### III. RESULT AND DISCUSSION

Dependent variable was smoking behavior of respondent. Sample classified into three groups which were: nonsmoker, risk smoker, and regular smoker. Nonsmoker was those who did not smoke and those who stopped smoke. Risk smoker was adolescence who was trying to smoke or first time smoker, and those who smoked for social reason. Independent variables consist of 13 items which elaborate into 28 questions. Reliability alpha cronbach was 0.655 which meant that the instrument was considered has a good tool. Using discriminant analysis, three groups of respondents produced two functions. The first function separated one group from other two groups while the second function separated remains two groups.

TABLE I  
CANONICAL DISCRIMINANT FUNCTION

Function	1	2
Eigenvalue	1.396	0.181
Percentage of Variance	88.5	11.5
Canonical Correlation	0.763	0.392
Wilk's Lambda	0.353	0.847
Chi-Square	572.78	91.7
Df	56	27
P	0.000	0.000

Both discriminant functions were significant statistically. It described that respondents differ each other based on independent variables. Level of variable relative important obtained by measurement of linear correlation independent variables with all discriminant functions. The correlation could be interpreted as factor loading to determine relative contribution each independent variables to discriminant function [19].

TABLE II  
COMPARISON OF RELATIVE CONTRIBUTION ADOLESCENCE  
SMOKING BEHAVIOR

Variable	Relative contribution
Friend positive reaction	0.616
Smoking is cool	0.602
Friend smoking behavior	0.545
Smoking will not generate problem	0.518
Friend pressure to smoke	0.356
Sibling smoke	0.32
Parent smoke	0.314
Familiarity with tobacco ads and brand	0.309
Knowledge of anti-smoking	0.307
Cigarette ads expose	0.282
Smoke is not dangerous	0.276
Attention to ads	0.241
Pressure not to smoke	0.192

It could be seen that variable contributes high relative towards adolescence smoking behavior were: positive reaction from friend, belief that smoking is cool, friend smoking behavior, and belief that smoking will not generate problem. Meanwhile familiarity to cigarette ads and brand, exposure of ads and attention to ads contribute lower than those factors.

While examining the hypotheses, this study used analysis of variance F test to determine the statistical significance of differences among groups of non-smoker, smoker at risk and regular smoker. The hypothesis was accepted if there was a significant difference among nonsmoker group with smoker at risk and regular smoker.

TABLE III  
HYPOTHESES TESTING

Variable	Mean	Std. Dev.	F	Sig.
Smoking is not dangerous	3.421	0.5577	2.029	0.020
Smoking will not generate a problem	3.350	19.615	9.020	0.000
Smoking is cool	2.925	12.327	9.401	0.000
Smoker sibling	1.989	0.4399	1.407	0.231
Smoker parent	1.652	0.5584	1.288	0.278
Pressure from friend to smoke	3.158	0.8073	4.299	0.000
Pressure from friend not to smoke	2.853	0.8380	1.323	0.201
Smoker friend	2.141	0.6893	1.454	0.172
Positive reaction from friend	2.784	0.9252	2.819	0.005
Exposed by cigarette ads	3.583	0.8091	1.073	0.381
Pay attention to cigarette ads	1.429	0.4308	1.322	0.254
Familiar with tobacco ads and cigarettes brand	1.745	0.4362	15.718	0.000
Anti-smoking information	1.687	0.3420	3.695	0.012

Table 3 showed level of significance differences among the groups of respondents. Of the 13 proposed hypotheses, 7 were accepted, namely:

H1: Adolescence who smoke believes that smoking is not dangerous

H2: Adolescence who smoke believes that they will not get a problem from smoking

H3: Adolescence who smoke believes that smoking is cool

H6: There are great possibilities those adolescences who smoke, getting pressure from friend to smoke

H9: There are great possibilities those adolescences who smoke, getting positive reaction from friend

H12: There are great possibilities, adolescences who smoke, familiar with tobacco ads and cigarettes brand.

H13: Adolescence who smoke know less anti-smoking information

The rejected hypotheses were:

H4: There is a great possibility that adolescence who smoke has smoker siblings

H5: There is a great possibility that adolescence who smoke has smoker parent

H7: There are few possibilities those adolescences who do not smoke, getting pressure from friend not to smoke

H8: There are great possibilities those adolescences who smoke, have friend who smoke

H10: There are great possibilities, those adolescences who smoke has been exposed by cigarette ads

H11: There are great possibilities, adolescences who smoke pay attention to cigarette ads.

Variables that could differentiate respondents were: belief that smoke is not dangerous, smoking will not lead into trouble, belief that smoking is cool, peer pressure to smoke, positive reaction from friends, familiarity with cigarette ads and brands, and know less about the anti-smoking information. Meanwhile, other variables including often watching cigarette advertising and pay attention to cigarette advertising were not significant factors to distinguish between smokers and nonsmokers.

From the analysis, it was known that cigarette advertising was not a significant factor to distinguish between groups of smokers and nonsmokers. This finding was in line with study conducted by Smith and Stutts [12] who found that main factors encourage teenager to smoke were: family, friends, and belief of smoking is not dangerous. They acknowledged that these factors are good predictor to determine whether a teen will smoke or not in the future. Nevertheless, some institutions and experts argue this finding. Review by the U.S. Surgeon General stated that advertising affects the level of cigarette consumption in adolescents [20]. Marketing campaign encourages consumers to try to consume a product or services. Marketing activities undertaken by cigarette manufacturers such as advertising and promotion associate strongly to encourage adolescence to smoke [8]. Tobacco advertising and vigorous campaign can increase the likelihood of young people to start smoking [9].

#### IV. CONCLUSION

Variables that contribute greatly to adolescents smoking behavior are positive reaction from friend, belief that smoking is cool, friend smoking behavior, and belief that smoking will not generate problem. Advertising has a low contribution to adolescence smoking behavior. Therefore, some efforts should be done to change the perception of adolescents about smoking. Teens also need to be careful choosing friends, because friends smoking behavior could affect their behavior.

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REFERENCES

- [1] Vivaneews, 2012, *Finance Minister: Tobacco excise cannot continue to be a mainstay*, Menkeu : Cukai tembakau tak bisa terus jadi andalan <[http://bctembilahan.beacukai.go.id/artikel?News\\_page=5](http://bctembilahan.beacukai.go.id/artikel?News_page=5)> [1 April 2013]
- [2] Z. Laros, *Observing substance of bill on tobacco control (part 2)*, Mencermati substansi RUU tentang pengendalian tembakau (bagian 2), 2011, <<http://www.jelajahbudaya.com/opini/mencermati-substansi-ruu-tentang-pengendalian-produk-tembakau-bagian-2.html>> [7 March 2012]
- [3] D. Yuliansari, *The Number of Indonesian Smokers, Third in the World*, Jumlah Perokok Indonesia Terbanyak Ketiga di Dunia, <<http://www.antaraneews.com/berita/313477/jumlah-perokok-indonesia-terbanyak-ketiga-di-dunia>> [1 June 2012]
- [4] Aseed, *Cigarette company marketing pattern, modestly to maximize results*, Pola Marketing Perusahaan Rokok Merendah Untuk Mendapatkan Hasil Maksimal, <<http://themarketeers.com/archives/pola-marketing-perusahaan-rokok-merendah-untuk-mendapatkan-hasil-maksimal.html>> [7 March 2012]
- [5] Mardanih, 2009, *Indonesia Largest Smoker Country in ASEAN*, Indonesia Negara Perokok Terbesar Se-ASEAN <<http://entertainment.kompas.com/read/2009/10/11/13355135/indonesia.negara.perokok.terbesar.se-asean>> [27 March 2012]
- [6] P. Kotler, and K.L. Keller, *Marketing Management*, Boston, Pearson Education, 2012.
- [7] A. Yanuarti, *Removing cigarette toxin from indonesian kids*, Melepas jerat racun rokok anak indonesia, 2008, <[http://arsip.gatra.com/2008001/versi\\_cetak.php?id=115410](http://arsip.gatra.com/2008001/versi_cetak.php?id=115410)> [7 March 2012]
- [8] J. Pierce, W.S. Choi, E.A. Gilpin, A.J. Farkas, and C.C. Berry, "Tobacco industry promotion of cigarettes and adolescent smoking", *JAMA*, vol.279, iss.7, pp.511-515, 1998. <http://dx.doi.org/10.1001/jama.279.7.511>
- [9] C. Lovato, G. Linn, L.F. Stead, and A. Best, "Impact of tobacco advertising and promotion on increasing adolescent smoking behaviors (Review)", *Cochrane database of systematic Review*, iss.3, 2003.
- [10] S. Sumaryati, *Ads spending in Indonesia*, Belanja iklan di Indonesia, 2011, <<http://swa.co.id/updates/belanja-iklan-di-indonesia-capai-rp-5983>> [27 March 2012]
- [11] T.A. Cronan, T.L. Conway, and S.L. Kaszas, "Starting to smoke in the NAVY: when, where and why", *Social Science and Medicine*, vol.33, iss.12, pp.1349-1353, 1991. [http://dx.doi.org/10.1016/0277-9536\(91\)90278-K](http://dx.doi.org/10.1016/0277-9536(91)90278-K)
- [12] K.H. Smith, and A.N. Stuuts, "Factors that influence adolescent to smoke", *The Journal of Consumer Affair*, vol.33, iss.2, pp.321-357, 1999. <http://dx.doi.org/10.1111/j.1745-6606.1999.tb00073.x>
- [13] W.R. Stanton, and R. McGee, "Adolescent's promotion of nonsmoking and smoking", *Addictive Behaviors*, vol.21, iss.1, pp.47-56, 1996. [http://dx.doi.org/10.1016/0306-4603\(95\)00034-8](http://dx.doi.org/10.1016/0306-4603(95)00034-8)
- [14] L. Chassin, C.C. Presson, J.S. Rose, and S.J. Sherman, "The natural history of cigarette smoking from adolescence to adulthood: Demographic predictors of continuity and change", *Health Psychology*, vol.15, iss.6, pp.478-484, 1996. <http://dx.doi.org/10.1037/0278-6133.15.6.478>
- [15] K.S. Meier, 'Tobacco Truths: The impact of role models on children's attitude toward smoking', *Health Education Quarterly*, vol.18, iss.2, pp.173-182, 1991. <http://dx.doi.org/10.1177/109019819101800203>
- [16] K.A. Urberg, S.J. Shyu, and J. Liang, "Peer influence in adolescent cigarette smoking", *Addictive Behaviors*, vol.15, iss.3, pp.247-255, 1990. [http://dx.doi.org/10.1016/0306-4603\(90\)90067-8](http://dx.doi.org/10.1016/0306-4603(90)90067-8)
- [17] P.P. Aitken, D.R. Eadie, G.B. Hastings, and A.J. Haywood, "Predisposing effects of cigarette advertising on children's intention to smoke when older", *British Journal of Addiction*, vol.86, iss.4, pp.383-390, 1991. <http://dx.doi.org/10.1111/j.1360-0443.1991.tb03415.x>
- [18] D.M. Muray, A.V. Prokhorov, and K.C. Harty, "Effects of statewide antismoking campaign on mass media message and smoking beliefs", *Preventive Medicine An International Journal Devoted to Practice and Theory*, vol.23, iss.1, pp.54-60, 1994.
- [19] J.F. Hair, C.W. Black, B.J. Babin, R.E. Anderson, and R.L. Tatham, *Multivariate Data Analysis*, New Jersey, Prentice Hall, 2006.
- [20] U.S. Department of Health and Human Services, "Preventing tobacco use among young people: A report of the Surgeon General", *DHSS Publication*, no. S/N 017-001-00491-0. Atlanta, GA, 1994.