

The Correlation between Masculinity and Smoking Behavior among Adolescent in Surabaya

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Abstract

Smoking behavior is one of the risky health behaviors adopted by adolescents in Indonesia. The behavior was commonly recognized as a masculine among male adolescents. The label of man identity called masculinity influences this condition. This study investigated the association of masculinity as ideology, masculinity norms, and gender role conflict and its correlation with smoking behavior in male adolescents who lived in Surabaya. This study used a descriptive correlative method and involved 314 adolescent males aged 15-18 years old in Surabaya as participants. We employed univariate analysis to identify predictors, including the ideology of masculinity (MNRI-SF), masculinity norms (CMNI-46), and gender role conflict (GRCS-I); and a dependent variable: male adolescents' smoking behavior. The data were collected electronically, following waived written consents. Bivariate analyses were conducted to investigate each of the predictor's questionnaires and dependent variables using chi-square with the level of significance of $p < 0.05$. Adolescents as participants in this study have low levels of ideological masculinity, high norms of masculinity and gender role conflict in the moderate category. The results indicated that ideology masculinity, masculinity norms, and gender role conflicts are positively associated with smoking behavior ($p = 0.001$, $p = 0.029$, and $p = 0.001$ respectively). The findings of this study suggested that smoking behavior was constructed as an element to the idea of masculinity in the perspective of male adolescents in Surabaya, despite the available warning to prevent the circulation of tobacco products to adolescents. Thus, this study recommends the need for reinvention around tobacco-products circulation as not to involve the youth.

Keywords: Adolescent, Gender role conflict, Masculinity, Smoking behavior.

Introduction

Adolescent's health is a significant determinant for future health [1]. However, the nature of this group at times leads their curiosity to risky behaviors, including smoking cigarettes [2]. Starting to smoke a cigarette at a very young age can increase the risk of lung cancer, chronic obstructive pulmonary disease, and cardiovascular events at a later stage of life (Bottorf *et. al.*) The Global Youth Tobacco Survey (GYTS 2014) data showed that 20.3% of school adolescents were active smokers. This behavior one of which is triggered by the idea of masculinity [3], in which adolescents assume smoking as to exhibit their masculine

identity, tough, independent and mentally strong [4]. On the other hand, the behavior is also influenced by the family's attitude toward cigarette smoking [2]. Nonetheless, we identified a paucity of studies to indicate that masculinity has a significant influence on smoking behavior among adolescents.

The World Health Organization reported that smoking has caused 6 million deaths each year; this figure included passive smokers [5]. It is estimated that deaths from smoking toll will reach eight million cases by 2030, 80% of which occur in low- and middle-income countries. Particularly in adolescents,

it is estimated that more than 24 million adolescents aged 13-15 years old are active smokers [6]. Specifically, the Indonesian Demographic and Health Survey data (2017 IDHS) indicates that 47.6 percent of adolescents aged 15-19 years are currently active smokers. Further, the data from the Ministry of Health indicates that these adolescents maintain the behavior and constitute 50% of future older smokers [7].

Adolescent's nature of curiosity triggers the intention to adopt smoking as a way to show their ability, bravely taking risks, domination over the peers and readiness to shift from parent-centered existence to self-reliance [8]. In most Asian countries, smoking was considered as a normal habit among men, while it is unethically if adopted by women [9]. Thus, smoking behavior is closely related to masculine identity, as equal to physical toughness and maturity [10].

Masculinity determines personal behavior and shapes mental, emotional, and interpersonal relationships [11]. However, it is suggested that men who believe in the ideology of masculinity have a higher possibility for poor health quality when compared to those who do not strongly attached to the idea of masculinity [12].

Masculinity is built upon three factors namely the ideology of masculinity, masculine norms, and gender-role conflicts [13]. Masculinity ideology shapes men's beliefs in the importance of following the community's consent standards on what is agreed upon as the accepted norms [14]. Masculinity norms shape how men act, think and feel and act on what is considered as manly behavior [15]. O'Neil et al. in 2016 explain the component of gender role conflict is a psychological condition in which one's roles would affect the others [16].

With regard to the limitation in further explaining this area, our study aimed to examine male adolescents' attachment to the three aforementioned factors and the possible correlation of each masculinity component with their smoking behavior. For a further purpose, this study was designed to confirm whether the findings of previous studies are relevant and describing a similar situation that occurred in Indonesia. The importance of this research is driven by the notion that understanding the determinants of smoking

behavior is significant as a basis for plan development in reducing the number of future smokers.

Method

This study was a descriptive-correlative and designed to identify the level of masculine ideology and masculinity norms embraced by and gender role conflicts experienced by male adolescents who lived as an urban community in Surabaya, and in correlation with smoking behavior.

This study was ethically approved by the Health Research Ethics Commission of the Universitas Airlangga. The participants of this study were students of senior high schools spread across the city of Surabaya and electronically invited to participate by filling the electronic survey. No face-to-face meeting between the researchers and participants was made at all stages of this study conduct.

Participants

This study targeted male adolescents as students of high schools in Surabaya, aged between 15-18 years old. We employed *G*Power 3.1.9.2* [17] app using the *statistical test: Correlations: Two dependent Pearson r's (common index)* to calculate the expected sample size that represents the actual power of 95%. The calculation recommended 314 participants to be involved in the study, and consecutive sampling was selected as the feasible option to achieve the expected number.

Data Collection

The data collection was conducted electronically in May 2019, involving four general and vocational high schools across the City of Surabaya. Informed consents were taken as waived from the heads of schools, prior to electronic data collection.

The ideology of masculinity was assessed using the *Male Norms Role Inventory-Short Form* by Ronald F. Levant et al. in 2016 [18], the masculinity norms were identified using the *Conformity of Masculine Norms Inventory-46* (CMNI-46) by Michael Parent and Moradi in 2009 [19] and the *Gender Role Conflicts Scale-I* (GRCS-I) by James O'neil in 1986 was borrowed to identify the gender role conflict [20].

The use of the borrowed instruments has been permitted by the original authors. The back-translation process of the English-language questionnaire was conducted following the guideline provided by the World Health Organization [21]. No face-to-face meeting was made between the researchers and participants at all stages of this study.

Data Analysis

The statistical analysis was performed using IBM SPSS V.19.0. Collected data were presented as univariate and bivariate analyses. The univariate analysis was conducted to present the demographic data and to interpret the results of each instrument used. This was done using the blueprint developed by the questionnaires' original authors. The bivariate analysis was carried out to explain the correlation between each predictor and the measured outcome. This was done using *chi-square* with the selected level of significance <0.05 .

Results

Demographic Characteristics

Out of the 314 participating students, 75 (23.89%) were active smokers, with mostly aged under 17 years old (39.2% were 16 years old and 36% 15y.o). Table 1 presents the characteristics of male adolescents concerning possible background correlated with smoking behavior. They were mostly lived with parents (95.5%) who were 38.2% of them were active smokers.

Most participating male adolescents started to smoke between their 7th to 9th grade (13.1%) and earlier than 6th grade (6.4%).

Currently, most of the male adolescents could take up to 10 cigarettes per day (88%). Most of the participants acknowledge that they smoked away from the house (98.67%) and accessed cigarettes by buying from shops (84%). As many as 40 (53.33%) male adolescents informed that their parents know they were active smokers, while the other 30 (46.67% of them stated that their parents did not know they were smokers.

In addition, 227 (72.3%) male adolescents were used to bringing less than IDR 10,000 pocket money per day, while 81 (25.4%) others used to bring more than the others, up to IDR 20,000. Regarding modes of daily transport, the majority of participants used to ride a personal vehicle, with the most was motorcycle (n=277) and the least was the car (n=3).

Bivariate Analysis of the Tested Variables and Measured Outcome

All tested variables had significant correlations with smoking behavior as results presented in the Chi-square analysis: the ideology of masculinity ($p=0.001$), masculinity norm ($p = 0.029$) and gender role conflicts ($p = 0.001$) (table 2). Pearson's Chi-square value ranked the ideology of masculinity as the highest (20.702), gender role conflicts (13.860) and masculinity norms (7.082).

Table 1: Demographic distribution and participants suspected smoking background

| Variable | n (%) |
|-------------------------------|-------------|
| Smoking behavior | |
| Smoker | 75 (23.89) |
| Non-smoker | 239 (76.11) |
| Age | |
| 15 y.o | 113 (36) |
| 16 y.o | 123 (39.2) |
| 17 y.o | 66 (21) |
| 18 y.o | 12 (3.8) |
| Living at home | |
| With parent/s | 300 (95.5) |
| With grandparent/s | 5 (5) |
| rent | 8 (1.6) |
| other (chose not to disclose) | 1 (0.6) |
| Pocket money per day | |
| <IDR 10.000 | 227 (72.3) |
| IDR 10.000 – 20.000 | 81 (25.8) |
| >IDR 20.000 | 6 (1.9) |
| School transport | |
| Riding a motorbike | 277 (88.2) |
| Driving a car | 3 (1) |
| with parent/s | 21 (6.7) |

| | |
|--|------------|
| Public transport | 13 (4.1) |
| Does any of the parents smoke? | |
| Yes | 120 (38.2) |
| No | 194 (61.8) |
| When did the first time you smoke? | |
| ≤ 6th grade | 20 (6.4) |
| 7th - 9th grade | 41 (13.1) |
| 10th - 12th grade | 14 (4.5) |
| How many cigarettes do you take each day | |
| ≤10 | 66 (88) |
| 10 - 20 | 8 (10.67) |
| ≥20 | 1 (1.33) |
| Where do you usually smoke? | |
| Outside of the house | 74 (98.67) |
| At home | 1 (1.33) |
| Where do you usually get cigarettes? | |
| bought from a shop | 63 (84) |
| Friend(s) gave me | 12 (16) |
| Do your parents know you are actively smoking? | |
| Yes | 40 (53.33) |
| No, they don't | 35 (46.67) |
| Total | 314 (100) |

Table 2: Chi-square analysis of the tested variables and measured outcome

| Variable | Level | Smoke | | Total | p-value | Pearson Chi-square |
|-------------------------|----------|--------|--------|--------|---------|--------------------|
| | | Yes | No | | | |
| Ideology of Masculinity | Low | 27 | 138 | 165 | 0.0001 | 20.702 |
| | | 8,60% | 43,90% | 52,50% | | |
| | Moderate | 33 | 89 | 122 | | |
| | | 10,50% | 28,30% | 38,90% | | |
| Masculinity Norms | Low | 15 | 12 | 27 | 0.029 | 7.082 |
| | | 4,8% | 3,80% | 8,60% | | |
| | Moderate | 1 | 9 | 10 | | |
| | | 0,30% | 2,90% | 3,20% | | |
| Gender Role Conflicts | Low | 10 | 63 | 73 | 0.001 | 13.860 |
| | | 3,20% | 20,10% | 23,20% | | |
| | Moderate | 64 | 167 | 231 | | |
| | | 20,40% | 53,20% | 73,60% | | |
| Total | Low | 9 | 56 | 65 | 0.001 | 13.860 |
| | | 2,90% | 17,80% | 20,70% | | |
| | Moderate | 37 | 138 | 175 | | |
| | | 11,80% | 43,90% | 55,70% | | |
| Total | High | 29 | 45 | 74 | | |
| | | 9,20% | 14,30% | 23,60% | | |
| Total | | 75 | 239 | 314 | | |
| | | 23,90% | 76,10% | 100% | | |

Discussions

The study shows that generally, male adolescents' attachment to masculinity was low. This indicated that most of the male adolescents did not highly attached to masculine identity as a global accepted context and suggesting the unique finding in Indonesia. With regard to cigarette consumption as a habit, this study found that 23.90% of male adolescents were current smokers. This number is significantly lower than that has been reported on a national scale, reaching to more than 47% [22]. This different result was possibly coming from the smaller size of the sample and the less rigorous design.

The chi-square analysis in this study suggests that the ideology of masculinity, masculinity norm and gender role conflict experienced by male adolescents are positively associated with smoking behavior, indicated by all of the p-values of lower than 0.05. In more detail, the ideology of masculinity is positively correlated with adolescent's smoking behavior ($p=0.001$), suggesting that the higher the attachment of a male adolescent to this component, the higher the chance of being an active smoker. This result infers that male adolescents who were closely embracing the ideology of masculinity have a higher risk of being active

smokers. This finding is similar to earlier research suggesting that attachment to the ideology is also associated with the presence of risk behaviors in adolescents, including illegal consumption of marijuana and illicit drugs [23]. Earlier research shows that smoking for adolescents is a behavioral projection of both psychological and physical pain [24]. Someone will become a smoker through psychological and physiological impulses.

A psychological impulse in adolescents, among others, to exhibit self-pride, divert anxiety and show maturity. In another study, it is indicated that teenagers smoke because they want to present their selves as adults and to become popular among peers [25]. This is in line with previous research that suggests men who believe in the ideology of masculinity have a higher health risk when compared to those who poorly believe in the ideal masculinity [12].

The findings in this study indicate that adolescents tend to avoid activities that are often considered as feminine. They perceived that smoking strengthens their masculine image among peers. Although this study did not evaluate further, this assumption can be built upon the social construct that defines men as a persona that is life-long instilled from a very young age [26].

This persona further determines men's risk-taking behavior and high curiosity as a set of accepted norms that are seen as a masculine image [27]. This includes discrete smoking behavior as reported by the participants of this study. In addition, the possibility of smoking habits is also caused by the family adaptation process, whereby male adolescents directly learned the habits from their smoking parents.

Further, there is an indication that these parents become permissive to adolescents' smoking behavior and giving unwritten permission to smoke. These indicate the family's role as the closest social environment that forms accepted standards of behavior for adolescents [28]. Thus, further studies are recommended to explain in more detail about the family's permissive attitude toward adolescents' smoking behavior. The results of this study inform a positive correlation between masculinity norms and smoking behavior in male adolescents.

The result suggests that the higher the norm, the higher the tendency of male adolescents to smoke. This finding is in line with previous research which states that masculinity norms contribute to poor health outcomes [13]. The male adolescents in this study were highly attached to masculinity norms and have a strong tendency to smoke.

The results of this study also inform that male adolescents experienced a moderate level of gender role conflict (55.7%). This was indicated by the GRCS-I that revealed the most participants experience internal conflicts if they have to express care-feeling to same-sex friends. They agreed as young men to care for others but not to be disclosed.

According to their perception, this action can be categorized as feminine and is inappropriate for men. This conflict has an impact on limiting the behavior that must be carried out as a man, but it results in risky actions, such as starting smoking habits below the permitted age [16]. This calls the policymakers to re-visit the regulation around cigarette product distributions.

The limitations of this study were mostly coming from its nature of cross-sectional studies, whereby the causal-effect chain cannot be further explained. Secondly, the small sample size and less rigorous design that caused the results should be taken with great consideration. The current study was also lacking from multivariate analysis, whereby the concept of masculinity can be explored further. Nonetheless, this study was first of its kind to narrow the gap in the literature to explain the male adolescent's attachment to masculinity and their smoking preference in Indonesia that was scarce in number.

The aforementioned shortcomings recommend future research to at least involve a larger sample size and more rigorous design. Additionally, to explore more on the underlying reasons for the poor behavior. That masculinity is an inevitable concept, the findings in this study call for actions to re-orient male adolescents to reduce smoking habits that contribute to shorter life expectancy.

Conclusions

This study finds that the components of

masculinity were moderately embraced and experienced by male adolescents who lived in the city of Surabaya. The analysis of the variables suggested that all components of masculinity are positively correlated with the smoking behavior and confirmed the available evidence around men's attachment to masculinity and poor health outcomes. The additional findings in this study suggest possibilities that promote adolescents'

smoking behavior, including smoking parents, and parents' permissive attitude by allowing their children to buy and smoke a cigarette. These calls for policy action in regulating the distribution of and limiting the access of adolescents to tobacco products. It is suggested that uniformity of action to reorient the adolescents to reduce future active smokers and improve men's life expectancy.

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