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## Exploring the Characteristics of Filipino University Students as Concurrent Smokers and Drinkers

Rito Baring

*De La Salle University, Manila, Philippines, rito.baring@dlsu.edu.ph*

Romeo B. Lee

*De La Salle University, Manila, Philippines, romeo.lee@dlsu.edu.ph*

Madelene Sta. Maria

*De La Salle University, Manila, Philippines*

Yan Liu

*University of Calgary, Canada*

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RESEARCH ARTICLE

# Exploring the Characteristics of Filipino University Students as Concurrent Smokers and Drinkers

**Rito Baring, Romeo B. Lee and Madelene Sta Maria**

De la Salle University, Philippines  
rito.baring@dlsu.edu.ph

**Yan Liu**

University of Calgary, Canada

**Abstract** As two unique and independent variables, smoking and alcohol drinking among university students have been substantively examined in systematic research. Despite evidence showing that they are linked, in that both are complementary and have common causes, smoking and drinking are not well understood as concurrent behaviors in university students. Data suggest that there are high numbers of students who both smoke and drink, or who are smokers–drinkers. Information as to who among these students are more inclined to smoke–drink is important for risk-reduction research and program development. Using survey data and logistic regression analysis, this study explores a set of characteristics of Filipino university students who smoke–drink. Our analysis explored the associations between the dependent variable (i.e., smoking–drinking) and eight independent variables (i.e., age, sex, religion, weekly allowance, grade-point average, physical exercise, level of closeness with parents, and level of closeness with peers). Results revealed that the Filipino university students who smoked–drank tended to be older, male, and Catholic; to have a big weekly allowance, a low grade-point average, and a strenuous exercise; and to have a low level of closeness with their parents, and a high level of closeness with their peers. Among these characteristics, age, weekly allowance, and level of closeness with peers were the most important. Sex was not a correlate. These findings need testing and validation in other local university student samples, using predictors with more nuanced measures, and other independent variables. Data are intended to trigger local discourses towards the development of research and intervention on university students’ lifestyle activities.

**Keywords** smoking-drinking, correlates, characteristics, Filipino university students

Smoking and alcohol drinking among university students have been the subject of empirical inquiries in several parts of the world, primarily because of the life-threatening risks and consequences of the said behaviors. The World Health Organization (WHO) and the American Cancer Society reported that smoking has caused the world economy more than US\$1.4

trillion, or nearly 2% of the global economic output (Agence France-Presse, 2017). Moreover, the WHO (2004) reported that the social and economic cost of alcohol abuse amounted to US\$184.6 billion in the US and US\$5.7 billion in Japan. Of interest, particularly to risk-reduction programs in universities, are those students who concurrently smoke and drink alcohol

or the so-called “smokers–drinkers.” Research has shown that, relative to the general population, smokers are three times more likely to drink alcohol, while alcohol drinkers are three times more likely to smoke (Grant, Hasin, Chou, Stinson, & Dawson, 2004). Smoking and drinking often intertwine because they both affect the brain in markedly similar ways (National Institute on Alcohol Abuse and Alcoholism, 2007). Universities require systematic evidence on the characteristics of smokers–drinkers so that they can reach out and provide interventions to the most-at-risk. This study explores the characteristics of Filipino university students as smokers–drinkers. To date, we know very little about the backgrounds of Filipino university students who are most-at-risk for smoking–drinking.

## Framework

As an open-market economy, the Philippines provides local university students a variety of opportunities in which to smoke and drink alcohol. From establishments (e.g., 7-11 convenience stores) to streets (e.g., vendors) and to households and social and seasonal events, university students can easily access tobacco products and alcoholic beverages from these sources. At all levels of the economy, there are relentless efforts, in both subtle and blatant forms, to further establish smoking and drinking as socially desirable and readily accessible behaviors for university students. Such efforts are geared towards ensuring that the market would always have a steady pool of tens of millions of consumers of tobacco and alcohol products, both for the present and future time. The national government earns billions of pesos from the taxes levied on the sales of these products, which implies that cigarettes and alcoholic beverages are not only an economic but also a political resource. At the personal level, smoking and drinking are practiced for their physiological, psychological, and social effects (Room, 2004).

Few studies have examined smoking and drinking as concurrent behaviors among university students. Most studies have mainly described smoking and drinking separately, albeit linking them, including

their independent explanatory factors, appears justifiable since the said behaviors are complementary (Room, 2004) and have common causes (Ritchey, Reid, & Hasse, 2001). The remaining discussion in this section uses published data on smoking and drinking as two independent behaviors and on smoking–drinking as concurrent behaviors. These data were drawn from studies involving a variety of samples of young people (not necessarily students or university students).

Data suggests that varying proportions of young people are smokers–drinkers, or drinkers–smokers. For example, in the US, 98.0% of smokers drank alcohol (Weitzman & Chen, 2005). In Hong Kong, 64.7% of alcohol drinkers were smokers (Ayub, 2015). Among Myanmar laborers in Thailand, the figure was 6.0% (Htin, Howteerakul, Suwannapong, & Tipayamongkholgul, 2014) and in Laos, 7.0% (Sychareun, Thomsen, & Faxelid, 2011). Smoking–drinking has been linked to a variety of characteristics of consumers. Among others, and for the purposes of this report, these characteristics include age, sex, religion, weekly allowance, grade-point average, physical exercise, level of closeness with parents, and level of closeness with peers.

Smoking and drinking tend to be acceptable if these behaviors are practiced by young people belonging to some subsets of social categories, such as age, sex, and religion. Belongingness provides young people a social license, and with societal approval, their movement towards the twin behaviors gets hastened. Studies revealed that insofar as age and sex are concerned, older and male students are more likely to be smokers and drinkers (Ritchey et al., 2001). In terms of religious affiliation, Catholics, including those from other denominations, are more predisposed to smoke and drink than Evangelical Protestants (Wasserman & Trovato, 1996).

Smoking and drinking are activities that also have corresponding demands from young people in terms of funds, time, and attention. The fewer constraints young people have in these respects, the greater their chances of smoking and drinking. Previous studies reported that those who receive more allowance (Chen, Lin, Huang, Tsai, & Chen, 2013; Soteriades & DiFranza, 2003), which generally comes from parents; and those with

lower grades (Ritchey et al., 2001), which means that young people are less actively engaged in curricular activities, and thus have more time for leisure activities, are prone towards smoking and drinking.

With their known harmful risks, smoking and alcohol drinking are likewise perceived as unhealthy. In their effort to avoid these behaviors, many young people adopt a healthy lifestyle, such as doing a physical exercise. Published evidence suggests that those who are not into physical exercise are more likely to be smokers (Ali, Amialchuk, & Heller, 2014; Conway & Cronan, 1992). However, the evidence for alcohol drinking shows a contrasting association: the probability of drinking alcohol has been found to rise with the intensity of a physical exercise or activity (Leasure, Neighbors, Henderson, & Young, 2015). Other studies suggest that physical exercise is taken by those who are already smokers and drinkers in their effort to counter the harmful effects of their behaviors, such as alcohol drinking (Perreault et al., 2016).

In addition, smoking and alcohol drinking have been examined in the context of young people's quality relationships (Rosenberg & Pehler, 2011), of which closeness with parents and closeness with peers are important indicators. Closeness with either group is indicative of the level of love, care, and support that young people receive from that group, and of the strength of their modelling and identification with that group. Thus, young people who have a lower level of closeness with parents and with peers, which means they are bereft of the groups' critical provisions, could be self-destructive and resort to smoking and drinking. Conversely, those who are closer with their parents have lower odds of smoking (Wilson, McClish, Heckman, Obando, & Dahman, 2007) and drinking (Zhang, Welte, & Wiczorek, 1999). Moreover, when they see smoking and drinking as normative in their parents (Strycker, Duncan, & Pickering, 2003) and in their peers, young people could also follow the same behaviors.

Concurrent smoking and drinking behaviors, including their correlates, are an unexplored topic in the Philippines. Using survey evidence, this report explores the characteristics of Filipino university students as smokers-drinkers.

## Methods

Using a self-administered questionnaire, our complete enumeration survey interviewed 3,108 students enrolled at a university in Manila, Philippines. Of the total sample, two-thirds were first and second year students. Three-fourths were matriculating in liberal arts, humanities, and education courses, while others were completing engineering, natural sciences, business and economics, education, and computer courses.

Our evidence in this report is drawn from our broader study on the well-being, social and civic engagements, and relationships in Filipino university students. We received an ethical review clearance from our university before conducting the survey. We used a self-administered questionnaire, containing mostly close-ended items, among students attending their 90-minute general education classes. For 20-30 minutes on average, students supplied answers to a series of survey questions, including those related to the variables discussed here.

We recognize that smoking-drinking has many correlates. For the purposes of this report, we selected eight independent variables. To fulfill the statistical requirements of the analysis, the variables, except for sex, were recoded from their original forms. The dependent variable, smoking-drinking, which was based on two original variables (on smoking and on drinking) was recoded into a dichotomous (yes/no) variable. The independent variables, or the characteristics of our sample (i.e., age, religious affiliation, weekly allowance, grade-point average, physical exercise, closeness level with parents, and closeness level with peers) were recoded into variables with two categories each. These independent variables were constructed from the data drawn from the survey questionnaire's open-ended questions (i.e., age, weekly allowance, grade-point average); close-ended questions, with two categories (i.e., sex, religious affiliation, physical exercise); and scales (i.e., closeness level with parents, closeness level with peers).

The parental closeness and peer group closeness scales comprised a series of eight and nine statements, respectively. Sample statements from the series were as follows: "I like spending time with my parents," "I

feel good being with my parents”/“I feel happy when I am with my friends,” “I wish I had more supportive friends.” Each statement in either series had four score-bearing response options—definitely not true (1), mostly not true (2), mostly true (3), and definitely true (4). Scores in either series were added (higher scores suggest a higher level of closeness) and were divided into two levels of closeness, high and low.

Based on logistic regression analysis, we identified the independent variables (or characteristics) that could best predict smoking–drinking. We used the Statistical Package for the Social Sciences version 20 in analyzing the data.

## Results

Of the 3,108 respondents, two-thirds were non-smokers–drinkers while one-third were smokers–drinkers (Table 1). Of every 10 respondents, about

six were aged 18 years or older and about four were younger. Respondents comprised a somewhat comparable number of males and females (52.86% versus 47.14%). Most were Roman Catholic. In terms of their weekly allowance, respondents were about comparably divided into those with a small and a big allowance.

Of every 10 respondents, approximately six had a high grade-point average and seven reported doing a strenuous exercise. Roughly 60% had a high level of closeness with their parents and 55.44% had a high level of closeness with their peers.

Based on unadjusted odd ratios (Table 2), the eight independent variables were all found to be statistically significantly related with smoking–drinking: age, sex, religious affiliation, weekly allowance, grade-point average, doing a strenuous exercise, closeness level with parents, and closeness level with peers. Specifically, students who were more likely to be smokers–drinkers were older, males, and Catholics;

**Table 1**  
*Descriptive Results*

| Variables                    | Categories     | N     | %     |
|------------------------------|----------------|-------|-------|
| Dependent:                   |                |       |       |
| Smoking-drinking             | No             | 2,023 | 65.09 |
|                              | Yes            | 1,085 | 34.91 |
| Independent:                 |                |       |       |
| Age                          | ≤17            | 1,164 | 37.45 |
|                              | >17            | 1,944 | 62.55 |
| Sex                          | Male           | 1,465 | 47.14 |
|                              | Female         | 1,643 | 52.86 |
| Religious affiliation        | Catholic       | 2,458 | 79.09 |
|                              | Non-Catholic   | 650   | 20.91 |
| Weekly allowance (in pesos)  | Small (≤1,500) | 1,692 | 54.44 |
|                              | Big (>1,500)   | 1,416 | 45.56 |
| Grade-point average          | Low (≤2.77)    | 1,290 | 41.51 |
|                              | High (>2.77)   | 1,818 | 58.49 |
| Doing a strenuous exercise   | No             | 886   | 28.51 |
|                              | Yes            | 2,222 | 71.49 |
| Closeness level with parents | Low            | 1,277 | 41.09 |
|                              | High           | 1,831 | 58.91 |
| Closeness level with peers   | Low            | 1,385 | 44.56 |
|                              | High           | 1,723 | 55.44 |

with a big weekly allowance, a low grade-point average, and a strenuous exercise; and had a low level of closeness with their parents, and a high level of closeness with their peers.

In adjusted odds ratios (AOR) (Table 2), seven of the eight independent variables remained statistically significantly related with smoking–drinking: age (AOR=2.61, 95% confidence interval=2.089-3.271), religious affiliation (AOR=0.744, 95% confidence interval=0.629-0.880), weekly allowance (AOR=1.516, 95% confidence interval=1.293-1.777), grade-point average (AOR=0.823, 95% confidence interval=0.697-0.973), doing a strenuous exercise (AOR=1.332, 95% confidence interval=1.079-1.644), closeness level with parents (AOR=0.782, 95% confidence interval=0.657-0.931), and closeness level with peers (AOR=1.600, 95% confidence interval=1.347-1.901). Of these, age was the most important (AOR=2.61), followed by closeness level

with peers (AOR=1.600), and weekly allowance (AOR=1.516). Sex was not a correlate.

## Discussion

This study explored the statistical relationships of eight independent variables with smoking–drinking among a sample of Filipino university students. Data are useful for understanding the relatively unexplored phenomenon of smoking–drinking among university students, and subsequently, for triggering local discourse on research and critical interventions on students' lifestyle activities. Smoking–drinking have combined deleterious effects on students' lives; thus, relevant studies and interventions are urgent and necessary.

Of the eight independent variables examined, seven were statistically significantly related with smoking–drinking. These included age, religious

**Table 2**

*Logistic regression analysis results*

| Variables                    | Categories     | OR        | 95% CI |       |         | Adjusted OR | 95% CI |       |         |
|------------------------------|----------------|-----------|--------|-------|---------|-------------|--------|-------|---------|
|                              |                |           | Lower  | Upper | p value |             | Lower  | Upper | p value |
| Age                          | ≤17            | Reference |        |       |         | Reference   |        |       |         |
|                              | >17            | 3.118     | 2.632  | 3.692 | <0.001  | 2.614       | 2.089  | 3.271 | <0.001  |
| Sex                          | Male           | Reference |        |       |         | Reference   |        |       |         |
|                              | Female         | 0.759     | 0.655  | 0.880 | <0.001  | 0.927       | 0.782  | 1.098 | 0.378   |
| Religious affiliation        | Catholic       | Reference |        |       |         | Reference   |        |       |         |
|                              | Non-Catholic   | 0.634     | 0.546  | 0.735 | <0.001  | 0.744       | 0.629  | 0.880 | <0.001  |
| Weekly allowance (in pesos)  | Small (≤1,500) | Reference |        |       |         | Reference   |        |       |         |
|                              | Big (>1,500)   | 1.707     | 1.472  | 1.981 | <0.001  | 1.516       | 1.293  | 1.777 | <0.001  |
| Grade-point average          | Low (≤2.77)    | Reference |        |       |         | Reference   |        |       |         |
|                              | High (>2.77)   | 0.649     | 0.559  | 0.753 | <0.001  | 0.823       | 0.697  | 0.973 | <0.05   |
| Doing a strenuous exercise   | No             | Reference |        |       |         | Reference   |        |       |         |
|                              | Yes            | 1.509     | 1.274  | 1.787 | <0.001  | 1.332       | 1.079  | 1.644 | <0.01   |
| Closeness level with parents | Low            | Reference |        |       |         | Reference   |        |       |         |
|                              | High           | 0.701     | 0.603  | 0.813 | <0.001  | 0.782       | 0.657  | 0.931 | <0.001  |
| Closeness level with peers   | Low            | Reference |        |       |         | Reference   |        |       |         |
|                              | High           | 1.278     | 1.100  | 1.483 | <0.001  | 1.600       | 1.347  | 1.901 | <0.001  |



affiliation, weekly allowance, grade-point average, doing a strenuous exercise, closeness level with parents, and closeness level with peers. Sex was not a correlate. There has been a narrowing of the lifestyle gap between the sexes in the past decades, which means that increasing numbers of young females are catching up with their male counterparts in terms of their smoking and/or drinking behavior.

In the Philippines, age is an important correlate for smoking–drinking. At the age of 18, the country’s legal age of majority, university students have social approval to access and consume tobacco and alcohol products. As such, they are generally free from multi-sector sanctions (e.g., from parental, school and police authorities) that are commonly imposed upon against under-age smokers–drinkers. Moreover, the fact that the existing pathways towards adulthood are now more flexible and more individualized (Settersten, Ottusch, & Schneider, 2015) implies that young people are relatively freer these days from moral constraints on smoking–drinking. Smoking–drinking tends to peak at later adolescence (Melchior, Chastang, Goldberg, & Fombonne 2008).

The Roman Catholic Church has a prohibition against vices. We found in this study that religious affiliation—in particular, being Catholic—was a correlate of smoking–drinking. That is, the Catholic students rather than their non-Catholic counterparts tended to be the ones who were more inclined to smoke–drink. The Catholic students tended to smoke–drink, because most, like the rest of the Filipino youth, are largely nominal Catholics who seldom practice their faith (Catholic Bishops Conference of the Philippines, 2002). The impact of the Catholic Church’s teachings on university students’ lifestyle is therefore limited, as shown in the enormous number of Filipino university students who smoked–drank (34.91%). In addition to religious affiliation, weekly allowance is another correlate of smoking–drinking (Chen et al., 2013). Allowance provides students with a wherewithal to purchase tobacco and alcoholic products. Most Filipino university students receive their weekly allowance, typically around Php150–250 per day (Canlas, 2014), from their parents and spend the bulk of it on food. Beer costs Php45 per bottle and cigarettes cost Php4–5 a stick and Php70 a pack. Against this backdrop, the

expectation is that those university students with a big rather than with a small weekly allowance would be the ones more likely to smoke–drink.

Having a lower grade is indicative of having a lower level of academic activities; this implies that university students would have more time to engage in leisure activities, such as smoking–drinking. We hypothesize that students with a lower grade were motivated to smoke–drink not only because they had free time; rather, that they smoked–drank because they were probably anxious of the repercussions that their relatively poor academic performance would have on their future and career prospects. Students could have smoked and drank because of the stress-reducing or calming effects of the twin behaviors (File, Fluck, & Leahy, 2001; Sayette, 1999). The statistically significant correlation between doing a strenuous exercise and smoking–drinking could be linked to a “party subculture” (Hoffman, 2006), which is common among the current generation of university students. To be part of the in-crowd, students would engage in athletic activities and attend social activities where smoking–drinking is normative of the party subculture.

Our study underscores important findings on students’ parents and peers. In the Philippines, parents and peers are basic but very significant primary groups for university students. Both groups provide their respective members with immediate care, security, and support. In the absence of a high level of closeness with their parents, university students are very likely to exhibit depressive symptoms, and thus, are very likely to smoke and to drink as an escape route from the burdens arising from their lack of parental closeness (Lee, Sta. Maria, Estanislao, & Rodriguez, 2013). In the presence of a high level of closeness with their peers, university students are very likely to smoke–drink. Peer groups are a universal and a primary source of fun, leisure, and entertainment, including smoking and/or drinking, for Filipino university students. Oftentimes, peers exert pressure on their members to adhere to group standards (Ukwayi, Eja, & Unwanede, 2012). Students tend to submit to peer pressure because of their need for social belongingness, validation, and acceptance.

Overall, we identified seven characteristics of Filipino university students who were smokers–

drinkers, but three of these, namely, age, weekly allowance, and closeness level with peers, were the most important characteristics in that order. Specifically, the smokers–drinkers among the Filipino sample were older and had a big weekly allowance and a high level of closeness with peers.

The foregoing data should be appreciated in the context of some limitations. Our sample of university students belonging to high-income brackets was not representative of the general Filipino university student population. Our dependent variable only measured the presence (yes) or absence (no) but not the level (i.e., low, moderate, high) of smoking–drinking. Furthermore, the characteristics we explored were, by no means, the only correlates of smoking–drinking. As a multifactorial phenomenon, smoking–drinking could be linked to a wide array of characteristics of university students. Future studies need to consider these gaps. Our exploratory findings could help guide local discourse on research and interventions revolving around lifestyle activities of Filipino students.

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