

# The Relationships between Demographic Characteristics, Intrapersonal Factors, Social/ Interpersonal Factors and Drug Use among University Students in Aceh, Indonesia

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## Abstract

*Background: Drug use prevalence continues to be stable around the world and it is the major problem, particularly in adolescence and early adulthood. The objective of this study was to examine the relationships between demographic characteristics, intrapersonal factors, interpersonal factors, and drug use among university students in Aceh, Indonesia. A cross sectional study was conducted with 382 university students. Data were collected by self-administered questionnaires. Data were analyzed using descriptive statistics and Chi-square test. The prevalence of drugs user were 31.6%. The results of this study revealed that gender ( $\chi^2 = 125.55$ ,  $p < .001$ ), current educational year ( $\chi^2 = 29.75$ ,  $p < .001$ ), living arrangement ( $\chi^2 = 11.47$ ,  $p < .01$ ), Sensation seeking ( $\chi^2 = 40.81$ ,  $p < .001$ ), depression ( $\chi^2 = 50.81$ ,  $p < .001$ ), self-esteem ( $\chi^2 = 11.68$ ,  $p < .01$ ), family history of drug use ( $\chi^2 = 196.58$ ,  $p < .001$ ), and peer drug use ( $\chi^2 = 85.63$ ,  $p < .001$ ), were significant related with drug use. Based on these findings, health care provider together with sectors of universities should be concerned about drug use behavior and seek appropriate strategies to promote healthy behavior and to reduce cases of drug use among university students.*

**Keywords—Drug use, Aceh, Indonesia**

## I. Introduction

United Nation Office on Drug and Crime (UNODC) has estimated that in 2010 between 153 million and 300 million people aged 15-64 (3.4-6.6 % of the world's population in that age group) had used an illicit substance (harmful or hazardous use of psychoactive drugs) at least once in the previous year [22]. In Indonesia, the prevalence of drug use were increased about 0.21% from 1.99 % or about 3.3 million people in 2008 to 2.2 % or about 3.8 million people in 2011 of the total population (aged 10-60 year old) [14]. Aceh is one of Indonesia province with the higher risk of substance behavior. Aceh was the first rank of marijuana land evidence in Indonesia. The survey of 10 universities in Aceh revealed that the students in eight of ten universities were positively engage in drug user [12]. Despite, government and BNN of Aceh had sought strategies against drugs use in Aceh; these cases have increased in three years

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(2010-2012) [13]. There has been a significant increasing in specific drug use involving, in particular tobacco products, methamphetamine, and marijuana [11]. Consequently, there were health's effects of the increasing drug use prevalence.

From the perspective of adverse effects, drug use was ranked at 20<sup>th</sup> world as the cause of mortality and it was ranked at the 10<sup>th</sup> in the developing countries, including Indonesia. UNODC (2012) stated that there were between 99,000 and 253,000 deaths of drug user globally in 2010, with drug-related deaths accounting for between 0.5 and 1.3 % of all-cause mortality among aged 15-64 [21]. Not only adults were attacked by these health consequences of drug use, but currently adolescents are at high risk of these issues.

One of factors that can influence drug use behavior is intrapersonal factors. Previous studies identified that intrapersonal factors (sensation seeking, depression, and self-esteem) were affected drug use behavior. These factors found were associated with drug use [15], [8]. In another hand a study showed these factors were not significantly associated with drug use [20]. Another, factor that can influence drug use behavior was interpersonal/ social factors, including family history of drug use and peer drug use. These factors influence an important role in shaping of drug use attitudes and behaviors among adolescents. According to literature review, those factors affecting drug use behavior in adolescent [4], [15], [8].

The theory of triadic influence (TTI) [16] is used as a guiding theoretical framework for this study. Briefly, the TTI is a metatheory that integrates several theories of health related behavior. It was initially developed to explain adolescent substance-use behaviors. The theory provides for a comprehensive, integrative analysis of social situation, cultural environment, and personal-biological factors as these streams of influence affect behavior. The three streams of influence flow from ultimate causes to proximal contributors of behavior. This study focuses on intrapersonal influences (sensation seeking, depression, and self-esteem) and interpersonal/ social influences through drug use role model (family history of drug use and peer drug use).

The objective of the study was to examine the relationships between demographic characteristics, intrapersonal factors (sensation seeking, depression, and self-esteem), interpersonal factors (family history of drug use and peer drug use) and drug use among university students. These findings would be useful as baseline for

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further policy strategies to improve health behavior particularly in reducing illicit drug use and drug abuse among adolescents in Aceh, Indonesia.

## II. Method

### A. Design and sample

A cross-sectional design was used in this study. 382 participants were recruited from 2 of 7 public universities and 3 of 10 private universities in Aceh, Indonesia. Simple random sampling method was used to select the participants with inclusion criteria were as follows: (1) full-time undergraduate students (18-21 years old), (2) undergraduate student who were born on November, 1993 to October, 1997, (3) registered in the university from 2<sup>th</sup> – 4<sup>th</sup> year, (4) undergraduate students with or without using drugs, (5) voluntary to participate in the project without any control or condition. An exclusion criterion of this study was participants with health problem such as severe of depression.

### B. Instrument

The Demographic Characteristic questionnaire consisted of 3 items: gender, current educational year, and living arrangement. Intrapersonal factors questionnaires consisted of three; first, seeking was measured by Brief Sensation Seeking Scale (BSSS) [6]. The Cronbach alpha was .78. The questionnaire consisted of 8 items on a five-point scales Likert type scale, ranging from 1= strongly disagree to 5 = strongly agree. Total score was calculated by summing the score of each item. Lower score reflected low sensation seeking and higher score reflected high sensation seeking. Further, depression was measure by Center for Epidemiologic Studies Depression (CES-D) [17]. The Cronbach's alpha coefficient was .84. The questionnaire consisted of 20 items on a four-point scale Likert type scale, ranging from 0 = rarely or none of the time (less than 1 day), to 3 = most or all of the time (5-7 days). For items 4, 8, 12, and 16, the scoring is exactly the same except but it is reversed. Total score was calculated by summing the score of each item. Lower score reflected no depressive and higher score reflected mild/ moderate symptom of depressive. Next, self-esteem was measured by global self-worth by measuring both positive and negative feelings about the self [18]. The Cronbach's alpha coefficient was .85. The questionnaire consisted of 10 items on a four-point scale Likert type scale, ranging from 1 = strongly disagree to 4 = strongly agree. Items 2, 5, 6, 8, 9 are reverse scored. Total score was calculated by summing the score of each item. Lower score reflected low of self-esteem and higher score reflected high of sensation seeking.

Interpersonal factors questionnaires consisted of two; first, family history of drug use was assessed by family characteristic associated with drug use. The questionnaire was developed by researcher. It consisted of 1 item with

binary option "yes" or "no". The score was recoded 1 = yes and 0 = no. Second, peer drug use was measured by peer drug use questionnaire to assess peer characteristic associated with drug use [20]. The Cronbach's alpha coefficient was .82. The questionnaire consisted of 3 items on a six-point scale Likert type scale, ranging from 0 = 0 friend to 5 = 5 friends. Total score was calculated by summing the score of each item. Lower score reflected less of friends and higher score reflected more of friends.

Furthermore, the instruments were tested for the content validity and reliability before data collection process. Content validity of the questionnaire was tested to determine the relevance of content by 3 experts including expert in family and community health nursing, nutrition, and expert in research methodology. The experts were asked to rate the clarity and relevancy of the instrument using Content Validity Index Items (CVI-I). The experts were asked to rate each item clarity and relevancy using 4- point rating scale: 1 = irrelevant, 2 = cannot be assessed without revising the item in questionnaire, 3 = relevant, it takes a bit revision and 4 = very relevant [3]. A hundred percent of experts rated items as 3 to 4. Some items of questionnaire were relevant but need some revisions. The questionnaire was corrected according to contents and suggestions from the experts. According to the CVI-I, the items of the questionnaire were valid. The Cronbach's alpha coefficient was used to assess internal reliability coefficient (ICR) of hand washing behavior questionnaire since the questionnaire was in multipoint scaled item. The results were ranging from 0.78 - .85.

### C. Data Collection

The study was approved by Committee and Ethics Review Board (ERB) Committee for Research Involving Human Research Subjects, Boromarajonani College of Nopparat Vajira (BCNNV-Bangkok Thailand) with the approval number (ERB No. 28/ 2558). The permissions for data collection were obtained from rectors of rectors/directors of universities in Aceh. The participants were informed about the objectives, procedures, and benefits of the study through information sheet. A number of 382 participants were met the inclusion criteria and completed self-administered questionnaire. Data were collected from January to February 2016.

### D. Data Analysis

SPSS version 22.0 software was used to analyze the data. Approaches to data analysis included descriptive statistics: frequencies, percentage, mean, median, and standard deviation; bivariate analysis with Chi-square test to measure the relationship between dependent and independent variables

## III. Results

The data in this study was reduced from 382 to 310 after data screening and cleaning. The result showed that more than half of participants (52.6%) were females. 33.2% of

participants in this study were 2<sup>nd</sup> batch, 33.5% were 3<sup>rd</sup> batch, and 33.2% were 4<sup>th</sup> batch of current educational year. More than half of participants (52.9%) lived with their parents. Next, more than half of participants (58.4%) had high level of sensation seeking. More than half of participants (61.6%) had no symptoms of depressive. More 50% of participants had high level of self-esteem. Further, more than half of participants (70%) had no family history of drug use and 50% of participants had more friends of drug users as shown in Table 1.

TABLE I. FREQUENCIES AND PERCENTAGES OF INDEPENDENT VARIABLES (N=310)

Variables	Frequency	Percentage
<b>Gender</b>		
Male	147	47.4
Female	163	52.6
<b>Current educational year</b>		
2nd year	103	33.2
3rd year	104	33.5
4th year	103	33.2
<b>Living arrangement</b>		
Living with parent	164	52.9
Living alone, in a dormitory or other arrangement	146	47.1
<b>Sensation seeking</b>		
High	181	58.4
Low	129	41.6
<b>Depression</b>		
Normal	191	61.6
Mild to moderate	119	38.4
<b>Self-esteem</b>		
High	155	50
Low	155	50
<b>Family history of drug use</b>		
Yes	93	30
No	217	70
<b>Peer drug use</b>		
More of friends	155	50
Fewer of friends	155	50

Furthermore, this study showed gender was related with drug use among late adolescents ( $\chi^2 = 125.55, p < .001$ ). The strength of relationship was negatively strong ( $\Phi = -.646$ ). Males were more likely to engage in drug use than female. Next, current educational year was related with drug use ( $\chi^2 = 29.75, p < .001$ ). The strength of relationship was positively moderate ( $\Phi = .31$ ). Participants in higher of current educational year were more likely to engage in drug use than participants in lower of current educational year. Further, living arrangement was related with drug use ( $\chi^2 = 11.47, p < .01$ ). The strength of relationship was positively weak ( $\Phi = .192$ ). Participants, who lived without parents (lived alone, in a dormitory, or lived in others arrangements), were more likely to engage in drug use than participants who lived with parent.

Intrapersonal factors were related with drug use among university students. Sensation seeking was significant related with drug use ( $\chi^2 = 40.81, p < .001$ ). The strength of relationship was positively moderate ( $\Phi = .363$ ). Participants who had high of sensation seeking were more likely to engage in drug use than participants who had low

of sensation seeking. Further, depression was related with drug use ( $\chi^2 = 50.81, p < .001$ ). The strength of relationship was positively moderate ( $\Phi = .405$ ). Participants who had depressive symptomatology were more likely to use drug than participants who had no depressive symptomatology. Regarding self-esteem, this factor was related with drug use ( $\chi^2 = 11.68, p < .01$ ). The strength of relationship was negatively weak ( $\Phi = -.194$ ). Participants with low level of self-esteem were more likely to use drug than participants with high level of self-esteem.

Interpersonal factors also showed relationship with drug use among university students. Family history of drug use was related with drug use ( $\chi^2 = 196.58, p < .001$ ). The strength of relationship was positively strong ( $\Phi = .796$ ). Participants who had family history of drug use were more likely to engage in drug use than participants who had no family history of drug use. Next, peer drug use was related with drug use ( $\chi^2 = 85.63, p < .001$ ). The strength of relationship was positively strong ( $\Phi = .527$ ). Participants who had more friends of drug use were more likely to engage in drug use than participants who had fewer friends of drug use. These results are shown in Table 2.

TABLE II. CORRELATION BETWEEN INDEPENDENT VARIABLES AND DRUG USE (N = 310)

Variables	Drug Use				$\chi^2$
	Yes		No		
	N	%	N	%	
<b>Gender</b>					125.55***
Male	93	63.3%	54	36.7%	
Female	5	3.1%	158	96.9%	
<b>Educational year</b>					29.75***
2 <sup>nd</sup> year	13	12.6%	90	87.4%	
3 <sup>rd</sup> year	39	34.6%	68	65.4%	
4 <sup>th</sup> year	49	47.6%	54	52.4%	
<b>Living arrangement</b>					11.47**
Living with parent	38	23.2%	126	76.8%	
Living alone or other arrangements	60	41.1%	86	58.9%	
<b>Sensation seeking</b>					40.81***
High	83	45.9%	98	54.1%	
Low	15	11.6%	114	88.4%	
<b>Depression</b>					50.81***
Normal	32	16.8%	159	83.2%	
Mild to moderate	66	55.5%	53	44.5%	
<b>Self-esteem</b>					11.68**
High	35	22.6%	120	77.4%	
Low	48	41.7%	109	58.3%	
<b>Family history drug use</b>					196.58***
Yes	82	88.2%	11	11.8%	
No	16	7.4%	201	92.6%	
<b>Peer drugs use</b>					85.63***
More of friends	87	56.1%	68	43.9%	
Less of friend	11	7.1%	144	92.9%	

\*\*\*  $p$ -value < .001, \*\*  $p$ -value < .01, \*  $p$ -value < .05

## IV. Discussion

This study reveals that gender is significantly related with drug use ( $\chi^2 = 125.55, p < .001$ ). This indicates that males

are more likely to engage in drug use than females. Gender differences in drug use might be explained by a consideration of sex-role expectations and differential stigma associated with drug use. Males are often taught to deal with problems by engaging in goal attainment (instrumental orientation), rather than by talking about difficulties (expressive, nurturing, or nurture seeking orientation). Using drugs might be one means by which males cope with stress or a sense of dis-balance. Alternatively, females might be more likely to seek social support [19]. Therefore, males tend to engage in drug use.

Regarding current educational year, this study shows that current educational year is significantly related with drug use ( $\chi^2 = 29.75, p < .001$ ). This indicates that participants in higher current educational year are more likely to engage in drug use than participants in lower current educational year. In this study, the higher percentage of drug users is 4<sup>th</sup> batch (45.3%), followed by 3<sup>rd</sup> batch (33.6%) and 2<sup>nd</sup> batch (15.5%).

Another demographic characteristic that shows the relationship with drug use is living arrangement ( $\chi^2 = 11.47, p < .01$ ). Participants, who lived without parent (lived alone, in a dormitory, or lived in others arrangements), are more likely to engage in drug use than participants who lived with parent. These people are at a key point in their lives, often making transitions to different lifestyles such as living arrangements. Their independence from parental control and the increased availability of drugs on college campuses or their others environment may lead to their initiation to engage in drug use behavior. The result of this study is similar to previous study that revealed student living arrangement remained significant relationship with having drugs and alcohol [23].

This study also reveals that sensation seeking is significantly related with drug use ( $\chi^2 = 40.81, p < .001$ ). This indicated that participants who have high sensation seeking were more likely to engage in drug use than participants who have low sensation seeking. Sensation seeking has been associated with participation in a number of risky activities [24] including unhealthy behaviors such as smoking, heavy drinking, drug use, etc. High and low sensation seekers tend to appraise risk differently (Horvath & Zuckerman, 1993; Zuckerman, 1979). Therefore, high sensation seekers seek out activities that provide greater arousal and they expect that they will experience less anxiety than low sensation seekers if they were in risky situations [25]. This study is consistent with a previous study that showed sensation seeking was significantly related with risk behavior such as drug use [5].

Next, depression is significantly related with drug use ( $\chi^2 = 50.81, p < .001$ ). This indicates that participants who have depressive symptomatology are more likely to engage in drug use than participants who have no depressive symptomatology. Drugs abuses are more common in depressed individuals than in the general population. Many

depressed individuals reach for drugs as a way to lift their spirits or to numb painful thoughts. As a result, depression and drug use feed into each other, and one condition will often make the other worse. Therefore, the individual with high depressive symptomatology tends to engage in drug use. This result is similar to previous study that revealed depressive symptoms had a significantly higher risk of drug use [7].

Another factor of intrapersonal factors that shows significant related with drug use is self-esteem ( $\chi^2 = 11.68, p < .01$ ). This indicates that participants who have low self-esteem are more likely to engage in drug use than participants who have high self-esteem. Self-esteem is only one component of the self-concept, which Rosenberg defines as totality of the individual's thoughts and feelings with reference to himself as an object [18]. When people are not able to fulfill their self-concept as they want, they may not only feel a lack of self-esteem, but they may also feel a sense of anger, loneliness, and depression. People tend to have difficulty in several social conflicts. These can cause low self-esteem. Those who have low self-esteem may turn to drugs in an effort to numb the pain and escape their problems. They see drugs as a temporary release from any suffering. Therefore, people with low self-esteem tend to engage in drug use. This result is consistent with previous study that hypothesized low self-esteem would be associated with high substance use & high self-esteem would be associated with lower substance use [1].

Regarding interpersonal factors, family history of drug use is significantly related with drug use ( $\chi^2 = 196.58, p < .001$ ). This indicates that participants who have family history of drug use are more likely to engage in drug use than participants who have no family history of drug use. Behavioral modeling of substance use through exposure to parental substance use early in life affect itself offspring substance use. The association between exposure to parental substance use and the development of a substance use in offspring is consistent with social learning theory. A review by Petraitis et al (1995) described social learning theory as the hypothesis that children model their behavior on people who are important to them and those they frequently interact with, such as their parents. Therefore, offspring with the family history of drug use tends to engage in substances use behavior. This result is consistent with previous study that revealed the family factors were most strongly associated with an increased prevalence of drug use [2].

Last, peer drug use is significantly related with drug use ( $\chi^2 = 85.63, p < .001$ ). This indicates that, participants who have many friends of drug users are more likely to engage in drug use than participants who have fewer friends of drug use. A review by Petraitis et al (1995) described social learning theory as the hypothesis that children model their behavior on people who are important to them and those they frequently interact with, such as their peer. Children learn from watching others (peers), if peers appear to get enjoyment from using drugs, they will be tempted to



emulate their behavior. Children who have much friends of drug use are more likely to engage in drug use behavior. This result is consistent with previous study that reported having friends who smoked or drank, and invitation of friends to smoke or drink were the dominant contributors to adolescent smoking and drinking [9].

## v. Conclusion

In conclusion, in this study showed that the prevalence of drugs user were 31.6 % of tobacco products, 10.06% of marijuana, and 8.4% of methamphetamine. This study revealed that demographic characteristics (gender, current educational year, and living arrangement), intrapersonal factors (sensation seeking, depression, and self-esteem), interpersonal factors (family history of drug use and peer drug use) were significantly related with drug use among university students.

## vi. Limitations

The study has limitations such as this study has not involved students from all categories of field of study, it only who had intention to voluntary in this study. Further, there was a restriction of the study to only undergraduate students and used self-administered questionnaire which needs students to give self-reported use of drugs that may tend to underestimate drugs use.

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