



ELSEVIER

Contents lists available at ScienceDirect

Addictive Behaviors Reports

journal homepage: www.elsevier.com/locate/abrep

Self-efficacy, sensation seeking, right attitude, and readiness to change among alcohol drinkers in a Thai vocational school



Pimpisa Chomsri^{a,d}, Surinporn Likhitsathian^{b,*}, Apinun Aramrattana^c, Penprapa Siviroj^a

^a Department of Community Medicine, Faculty of Medicine, Chiang Mai University, Chiang Mai 50200, Thailand

^b Department of Psychiatry, Faculty of Medicine, Chiang Mai University, Chiang Mai 50200, Thailand

^c Department of Family Medicine, Faculty of Medicine, Chiang Mai University, Chiang Mai 50200, Thailand

^d Faculty of Nursing, Chiang Rai College, Chiang Rai 57000, Thailand

ARTICLE INFO

Keywords:

Alcohol drinking
Vocational student
Self-efficacy
Sensation seeking
Right attitude

ABSTRACT

Introduction: The prevalence of alcohol use in teenagers has been increasing every year. The majority of alcohol drinkers were vocational students when compared with other educational settings. Sixty percent of Thai vocational students were found to use alcohol.

Methods: Our research was a cross-sectional study in 306 vocational students, using the Alcohol Consumption Questionnaire, the ASSIST-Y (Alcohol, Smoking, and Substance Involvement Screening Test-Youth) screening tool and a self-administered questionnaire. The association between alcohol drinking with sensation seeking, self-efficacy, right attitude and readiness to change factors were analyzed by binary logistic regression.

Results: Most students were males (57.5%) and 15–17 years of age (70.9%). Seventy-six-point eight percent of vocational students were in the lifetime drinker group. The binge drinker group was 32.7% and 10.5% were classified in a light drinker group. Sensation seeking was strongly associated with the binge drinker group and the light drinker group, especially the disinhibition dimension (adjusted odds ratio [OR] = 1.64, 95% CI: 1.34–2.00 and [OR] = 1.57, 95% CI: 1.19–2.06, respectively).

Conclusions: Our research found sensation seeking, especially the disinhibition dimension was a significant factor for monitoring drinking behavior. We recommended that every vocational student should be monitored for sensation seeking factors.

1. Introduction

Alcohol use problem is still a major global public health concern. Worldwide per capita consumption of alcoholic beverages equaled 6.13l of pure alcohol consumed by people aged 15 years or older in 2008 (World Health Organization, 2012) and has increased to 6.5l in 2011 (World Health Organization, 2014b). Together with an increasing quantity of alcohol use, approximately 4.1% of people over 15 years old were identified with alcohol use disorders (AUDs) (World Health Organization, 2014a). For this difficult problem in the young population data has shown an increased prevalence of alcohol and tobacco use among teenagers each year. Lifetime use of alcohol varied among different countries from 11 to 90% in this population (World Health Organization, 2012, 2014b).

The same as the global trend Thai people who reported any substance use in their lifetime, have declined in age (Hosiri, Sittisun, & Limsricharoen, 2016). The prevalence of alcohol drinking in

adolescents was 12.9% in 2007 to 19.4% in 2015 (Sae-hgow, Wijitkunakorn, & Assanangkornchai, 2016). Furthermore, individuals who reported first use of alcohol have decreased in age at their first use (Office of the Narcotics Control Board, 2013). Data from a 2016 survey indicated that the youngest drinker was reported very early at nine years old (Hosiri et al., 2016) and the average age at first drinking was 16.7 years old (Statistical Forecasting Bureau & National Statistical Office, 2014). One survey in high school students found that 50% and 11.9% of them had used alcohol once in their lifetime and in the past 30 days, respectively (Tantirangsee, Assanangkornchai, & Geater, 2014).

People in this age range were primarily students. In comparison with other student populations, alcohol drinking and other substance use was the most prevalent in the vocational student group (The Center for Alcohol Studies, 2013). Previous studies in two vocational schools reported that about 60% of them had used alcohol in the past month (Wongtongkam, Ward, Day, & Winefield, 2014).

* Corresponding author at: Department of Psychiatry, Faculty of Medicine, Chiang Mai University, Muang, Chiang Mai 50200, Thailand.

E-mail address: surinporn.l@cmu.ac.th (S. Likhitsathian).

<https://doi.org/10.1016/j.abrep.2018.08.006>

Received 20 April 2018; Received in revised form 18 August 2018; Accepted 20 August 2018

Available online 21 August 2018

2352-8532/ © 2018 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license

(<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Psychosocial interventions are essential in the prevention and management of alcohol use problems in the adolescent group. Basically, substance use prevention programs in school settings can be divided into three levels of universal preventive interventions, selective preventive interventions and indicated preventive interventions (Office of the Narcotics Control Board, 2013). The first level targets all students. An example of this level is the life skill training program. The aim of this level is to reduce alcohol drinking, smoking and other illicit substance use. The second level focuses on specific target groups or at-risk population while the third level is aimed at students who have already presented with problems.

Fundamental psychological factors related with alcohol drinking in teenagers were sensation seeking, self-efficacy, right attitude, and readiness to change (McKay, Percy, Cole, Worrell, & Andretta, 2016). *Sensation seeking* refers to the characteristic of requiring new experiences, excitant experiences, and expression in risk activities (Zuckerman, 1979). Sensation seeking is positively associated with first time intake and the amount of drinking (Heinrich et al., 2016; Zuckerman, 1979). *Self-Efficacy* refers to beliefs about the capabilities to achieve one's own destination, while low self-efficacy was linked to low drinking refusal skills (Foster, Yeung, & Neighbors, 2014). It is important to note that self-efficacy is one of the factors predicting alcohol and other substance use (McKay et al., 2016). *Right attitudes* on alcohol and substance use were associated with reduction in risk of future substance use. A longitudinal study among American adolescents found that a positive attitude toward binge drinking was associated with future binge drinking behavior (Van der Zwaluw, Kleinjan, Lemmers, Spijkerman, & Engels, 2013). Evidence also supported the strongest predictors of high-risk drinkers were having an attitude toward regular alcohol use (Jackson et al., 2014). A positive attitude to alcohol drinking represented current drinkers and projected continuous drinkers. These factors, nevertheless, have not been studied in Thailand. *Readiness to change* was a framework developed by Prochaska and DiClemente (Prochaska, 2016) for understanding the behavior change process, and for considering how ready they are to change their behavior i.e.; alcohol drinking. The model proposed that people go through discrete stages of change, and that the processes by which people change seem to be the same “with or without treatment” (World Health Organization, 2010a).

Heavy alcohol consumption in adolescence appears to persist into adulthood and is associated with alcohol problems including dependence, premature death and diminished work capacity (World Health Organization, 2014a). As the prevalence of alcohol consumption was highest among the vocational students, we aimed to explore the association between these four factors as mentioned; sensation seeking, self-efficacy, right attitude and readiness to change; and alcohol drinking behavior specifically the risk of binge drinking in this population.

2. Methods

A cross-sectional survey on a prevalence of lifetime use of alcohol in a private Thai vocational school was conducted. The target population was the 306 students at vocational certificate level in the academic year 2015. All participants including the parents of students aged < 18 years old gave their informed consent after the study details had been fully explained. There were no exclusion criteria in this study. This study was approved by the Institutional Review Board of the Faculty of Medicine, Chiang Mai University.

Sociodemographic characteristics were collected by self-structured questionnaires. History of lifetime alcohol and substance use was assessed using the Alcohol, Smoking and Substance Involvement Screening Test Youth (ASSIST-Y) (The Integrated Community Management for Substance Abuse Program World Health Organization, 2010b). History of the amount of alcohol consumption was collected using the Alcohol Consumption Questionnaire. Participants were asked if they had used alcohol in the past 30 days prior to the interview.

History of binge drinking in the past month was collected by face to face interviews (National Examination Survey Office, n.d.). The interviewing process used the WHO guidelines which are well established; interviewers had received training by an expert and interview was carried out in individual rooms (World Health Organization, 2010b).

Four factors associated with alcohol drinking behavior were collected using self-structured questionnaires.

1. Sensation seeking was assessed using the *Sensation Seeking Scale-Form V*. It was composed of 40 items and categorized in four dimensions: 1) thrill and adventure seeking; 2) experience seeking; 3) disinhibition; and 4) boredom. The type of sensation seeking questionnaire is affirmative sentence. In each items have 2 sentences (A sentences and B sentences), it shows feeling and desire. The respondents can choose only one sentence (A or B). The reliability was 0.75 (Zuckerman, 1979).
2. The self-confidence to resist alcohol drinking and other substances use in various situations was evaluated by *The Brief Situational Confidence Questionnaire (BSCQ)* (Center for Substance Abuse Treatment, 2012). The Cronbach's alpha coefficient was 0.85 for the BSCQ indicating a high level of internal consistency for this 8-item instrument. The BSCQ in Thai version was translated and composed by translation-back translation verification process. Evidence showed similar associations between the BSCQ and the SCQ-100 for assessing self-efficacy within alcohol users (Breslina, Sobell, Sobell, & Agrawal, 2000). The BSCQ involved eight situations which were (1) Unpleasant emotions (e.g., If I were depressed about things in general; if everything were going badly for me). (2) Physical discomfort (e.g., If I were to have trouble sleeping; if I felt jumpy and physically tense). (3) Pleasant emotions (e.g., If something good happened and I felt like celebrating; if everything were going well). (4) Testing control over my use of alcohol or drugs (e.g., If I were to start to believe that alcohol or drugs were no longer a problem for me; if I felt confident that I could handle drugs or several drinks). (5) Urges and (e.g., If I suddenly had an urge to drink or use drugs; if I were in a situation where I had often used drugs or drank heavily). (6) Conflict with others (e.g., If I had an argument with a friend; if I were not getting along well with others at work). (7) Social pressure to use (e.g., If someone were to pressure me to “be a good sport” and drink or use drugs with him; if I were invited to someone's home and he offered me a drink or drugs). And (8) Pleasant times with others (e.g., If I wanted to celebrate with a friend; if I were enjoying myself at a party and wanted to feel even better). Each of the 8 situations consists of a 100-mm line, anchored by 0% (“not at all confident”) and 100% (“totally confident”) where clients are asked to place an “X” along the line, from 0% to 100%.
3. Right attitude toward substance use and readiness to change were measured by the *Right Attitude Questionnaire (RAQ)* with the reliability test 0.8 (Chonnui & Kanin, 2014). RAQ comprised 15 items, it was a Likert rating scale which was scored as three levels. For the positive questions; the agree, uncertain and disagree responses were rated as 3, 2 and 1 respectively. While the agree, uncertain and disagree responses were rated as 1, 2 and 3 respectively for the negative questions.
4. The readiness to change was assessed using the *Scoring the Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES 8A)* (Miller & Tonigan, 1996). The SOCRATES 8A was divided into three factorial scores which were recognition, ambivalence, and taking steps. The Cronbach's alpha coefficients were 0.60–0.88, 0.85–0.95, and 0.83–0.96, respectively. The scores of each factorial can translate such as high scores of recognition factorial, it shows the respondents to accept own negative consequences from alcohol use and have trend to change behavior; but who have low scores, it shows the respondents to reject the negative consequences from alcohol use, reject diagnostic labels such as “problem drinker” and “alcoholic,” and they don't want to change in alcohol use.

Descriptive analysis was conducted to determine the prevalence of alcohol use and to describe the pattern of four psychological factors associated with alcohol drinking. We used the student-t and Chi-square test to compare the lifetime and binge alcohol drinking, sensation seeking, self-efficacy, right attitude toward substance use and readiness to change between male and female students. The ANOVA Bonferroni post hoc test was conducted to compare the sensation seeking, self-efficacy, right attitude toward substance use and readiness to change between each drinker group. The multiple binary logistic regression models were used to examine the association between sensation seeking, self-efficacy, right attitude toward substance use, and readiness to change among non-, light and binge drinker group. The dependent variable in the multiple binary logistic regression has been coded as follows; compare between Lifetime (1) vs. No drink (0), compare between Binge (1) vs. Light (0), compare between Binge (1) vs. No drink (0), and compare between Light (1) vs. No drink (0). All analyses were carried out using SPSS version 22.0 (IBM Corp, 2013).

3. Results

3.1. Demographic characteristics

All 306 vocational students, 176 (57.5%) male and 130 (42.5%) female with an age range of 15 to 25 years old (mean = 16.98, SD = 1.42), were recruited. The results showed 76.5% and 32.7% of vocational students reported alcohol drinking once in their lifetime and had been binge drinking in the past one month, respectively. History of lifetime use of alcohol and binge drinking in the past month were more common in male than female (OR: 3.31 and 2.33, respectively) students

Table 1
Demographic data.

	Total N (%)	Male N (%)	Female N (%)	χ^2	OR Male/Female
Alcohol Use (n = 306)					
Lifetime Drinking	235 (76.8)	151 (64.3)	84 (35.7)	18.824***	3.31
Binge Drinking	100 (32.7)	75 (75)	25 (25)	18.583***	2.33
	Mean (SD)	Mean (SD)	Mean (SD)	t	df
Age (n = 306)	17 (1.42)	17.1 (1.36)	16.8 (1.49)	1.715	304
Sensation Seeking (n = 306)					
Thrill and Adventure Seeking	4.07 (2.41)	4.62 (2.46)	3.31 (2.28)	4.791***	297
Experience Seeking	3.18 (1.56)	3.35 (1.57)	2.95 (1.56)	2.217*	298
Disinhibition	3.25 (1.95)	3.85 (1.87)	2.41 (1.76)	6.721***	293
Boredom Susceptibility	2.27 (1.45)	2.43 (1.60)	2.07 (1.13)	2.286*	301
Total	12.7 (5.03)	14.1 (4.8)	10.6 (4.6)	6.169***	283
Self-Efficacy (n = 306)					
Unpleasant Emotions	54.2 (32.2)	48.8 (31.6)	61.6 (32.0)	-3.487**	304
Physical Discomfort	54.2 (34.9)	48.3 (35.5)	60.7 (35.1)	-2.839**	304
Pleasant Emotions	82.1 (25.0)	79.7 (25.8)	85.4 (23.6)	-1.956	304
Testing Control Over My Use of Alcohol	70.8 (34.6)	65.4 (35.7)	78.0 (31.9)	-3.248**	303
Urges and Temptation	49.4 (34.8)	43.5 (32.6)	57.5 (36.1)	-3.485**	303
Conflict with Others	49.9 (35.3)	45.2 (34.4)	56.2 (35.5)	-2.733**	304
Social Pressure to Use	51.7 (40.1)	45.5 (39.2)	60.1 (40.0)	-3.198**	303
Pleasant Time with Others	69.5 (28.7)	68.9 (29.7)	70.2 (27.6)	-0.374	302
Total	60.4 (21.6)	55.9 (20.9)	66.2 (21.3)	-4.193***	300
Readiness to Change (n = 235)					
Ambivalence	19.2 (4.8)	19.6 (5.0)	18.5 (4.1)	0.136	184
Recognition	11.1 (3.1)	11.3 (3.1)	10.8 (3.0)	0.935	190
Taking Steps	26.8 (5.8)	26.3 (6.0)	27.7 (5.3)	0.361	181
Total	56.9 (11.6)	56.8 (12.3)	56.9 (10.2)	-0.047	181
Right Attitude (n = 306)	38.5 (3.7)	37.8 (4.1)	39.3 (3.0)	-3.342**	285

* p-Value < 0.05.

** p-Value < 0.01.

*** p-Value < 0.001.

(see detail in Table 1).

For sensation seeking, the results showed that the score was higher in males than those in female students. The highest sensation seeking score was in the thrill and adventure seeking dimension [mean (SD) = 4.62 (2.46), $p < 0.001$], followed by the disinhibition [mean (SD) = 3.85 (1.87), $p < 0.001$], experience seeking [mean (SD) = 3.35 (1.57), $p < 0.05$], and boredom susceptibility dimension [mean (SD) = 2.43 (1.60), $p < 0.05$], respectively. On the contrary, the results showed the self-efficacy and right attitude toward substance use scores were higher in females than those in male students. The readiness to change score [mean (SD) = 56.9 (11.6), $p > 0.05$] showed non-significant difference between males and females (see Table 1).

In comparison with those non-drinkers (n = 174), the light and binge drinkers group had a higher mean (SD) score in the sensation seeking as 14.93 (3.65), and 14.56 (4.63), $p < 0.001$; respectively. But binge drinkers group had a lower mean (SD) score in the self-efficacy as 53.59 (18.42), $p < 0.001$; when compared with the non-drinkers group. The right attitude scores also showed lower mean (SD) scores in the light and binge drinkers groups 38.63 (2.81), and 37.36 (4.05), respectively) than those in the non-drinkers group ($p < 0.01$) (see Table 2).

3.2. Associations between sensation seeking, self-efficacy, and right attitude with alcohol drinking

Of the 306 students, the lifetime drinkers (n = 235) were more likely to seek new experiences than the students who never used alcohol (n = 71), with an adjusted odds ratio (AOR) 1.15 and 95% confidence interval (CI) 1.08–1.23. Particularly the disinhibition dimension which

Table 2
ANOVA of sensation seeking, self-efficacy, right attitude, and readiness to change across 3 drinking groups with Bonferroni Post Hoc Test (Correction test)^a.

	Mean (SD)			F	df within/between gr.	p-Value*	p-Value by Bonferroni Post Hoc Test		
	Binge	Light	Non-drink				Binge/Light	Binge/Non-drink	Light/Non-drink
Sensation Seeking	14.6 (4.6)	14.9 (3.6)	11.2 (5.0)	18.85	282/2	0.000	1.00	0.000***	0.000***
Self-Efficacy	53.6 (18.4)	55.9 (14.9)	65.0 (23.2)	9.91	299/2	0.000	1.00	0.000***	0.077
Readiness to Change	57.0 (10.5)	59.5 (11.0)	55.2 (13.3)	1.35	284/2	0.002	0.953	1.000	0.316
Right Attitude	37.4 (4.1)	38.6 (2.8)	39.1 (3.6)	6.65	180/2	0.262	0.296	0.001**	1.000

^a Bonferroni Post Hoc Test is used to correct significant level based on multiple comparison.

* p-Value.

** p-Value < 0.01.

*** p-Value < 0.001.

Table 3
A multiple binary logistic regression: association between sensation seeking, self-efficacy, right attitude, and readiness to change across the three drinking behavior groups.

	Lifetime (1) (vs. Never(0)) ^a		Binge (1) (vs. Light(0)) ^b		Binge (1) (vs. No drink(0)) ^b		Light (1) (vs. No drink(0)) ^b		
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	
Sensation Seeking									
Thrill and Adventure Seeking	1.07	0.94–1.22	0.92	0.76–1.11	0.96	0.83–1.11	1.02	0.83–1.25	
Experience Seeking	1.16	0.93–1.46	1.11	0.83–1.49	1.05	0.84–1.31	0.99	0.71–1.38	
Disinhibition	1.56***	1.28–1.90	0.99	0.76–1.29	1.64***	1.34–2.00	1.57**	1.19–2.06	
Boredom Susceptibility	0.86	0.67–1.10	0.95	0.70–1.30	0.97	0.79–1.25	1.04	0.76–1.43	
Total	1.15**	1.08–1.23	0.96	0.86–1.07	1.11**	1.03–1.20	1.18**	1.04–1.32	
Self-efficacy									
Unpleasant Emotions	0.99	0.98–1.01	1.01	0.99–1.03	0.98*	0.97–0.996	0.98	0.96–1.00	
Physical Discomfort	0.99	0.98–1.00	1.00	0.98–1.01	1.00	0.99–1.01	1.00	0.99–1.02	
Pleasant Emotions	0.99	0.98–1.01	0.99	0.97–1.01	0.99	0.98–1.00	1.00	0.98–1.02	
Testing Control Over My Use of Alcohol	1.01	0.99–1.02	0.99	0.97–1.00	1.00	0.99–1.01	1.01	0.99–1.02	
Urges and Temptation	1.01	0.99–1.02	0.99	0.98–1.01	1.00	0.99–1.01	1.01	0.99–1.03	
Conflict with Others	1.00	0.99–1.01	1.01	0.99–1.03	0.99	0.98–1.01	0.99	0.97–1.00	
Social Pressure to Use	0.99	0.99–1.01	1.00	0.99–1.02	1.00	0.99–1.02	1.00	0.98–1.01	
Pleasant Time with Others	0.99	0.98–1.00	0.99	0.97–1.01	1.00	0.99–1.01	1.02	1.00–1.03	
Total	0.99	0.97–1.00	1.00	0.97–1.02	0.99	0.97–1.01	0.98	0.96–1.01	
Readiness to Change									
Ambivalence	–	–	1.14	0.94–1.38	1.28**	1.09–1.51	1.12	0.92–1.17	
Recognition	–	–	16.98*	0.89–1.14	1.05	0.95–1.19	0.12	0.89–1.17	
Taking Steps	–	–	0.89*	0.80–0.98	0.88	0.81–0.95	0.99	0.90–1.09	
Total	–	–	0.98	0.94–1.02	1.00	0.97–1.04	1.04	0.99–1.08	
Right Attitude	0.98	0.90–1.08	0.90	0.79–1.04	0.95	0.86–1.05	1.04	0.88–1.22	

^a N = 306.

^b N = 235.

* p-Value < 0.05.

** p-Value < 0.01.

*** p-Value < 0.001.

were positively associated to increased level of drinking with OR, 95% CI = 1.56, 1.28–1.90 ($p < 0.001$). While the self-efficacy (OR, 95% CI = 0.99, 0.97–1.00) and right attitude toward substance use (OR, 95% CI = 0.98, 0.90–1.08) showed no significant association with lifetime drinking (see Table 3).

3.3. Associations between sensation seeking, self-efficacy, right attitude, and readiness to change with binge alcohol drinking

Of the 235 students with a lifetime history of alcohol use, 100 (42.6%) had been binge drinking in the past month. Compared with those who had not drunk in the past month ($n = 103$), binge drinkers and light drinkers were more likely to seek new experience with AOR (95% CI) = 1.11 (1.03–1.20) and 1.18 (1.04–1.32), all p 's < 0.01; respectively. Particularly the disinhibition dimension which was positively linked to an increased risk for both drinking groups with AOR (95% CI) = 1.64 (1.34–2.00), $p < 0.001$ and 1.57, 1.19–2.06 ($p < 0.01$) in the binge and light drinker's groups, respectively. For the readiness to change, ambivalence was found to have an association with the binge drinking group (AOR, 95% CI = 1.28, 1.09–1.51,

$p < 0.01$) but no significant association with the light drinking group. While the self-efficacy (AOR, 95% CI = 0.99, 0.97–1.01) was found to have non-significant negative association with binge drinking. However, unpleasant emotions were found to have an association with binge drinking group (OR, 95% CI = 0.98, 0.97–0.996, $p < 0.05$). Right attitude toward substance use showed no significant association between groups. (See Table 3.)

4. Discussion

Alcohol use is common in Thai vocational students with a lifetime prevalence rate of 76.8% while approximately one third of the students were binge drinkers. This prevalence of alcohol drinking is similar to the results of the survey of vocational students in Thailand in 2013 which reported that the prevalence of alcohol use was 69.9% (Child Watch Project, 2014). This prevalence, however, is lower than that among Chinese adolescents (90%) but higher than that among Brazilian adolescents (38.6%) (Sanchez et al., 2013). This study found sensation seeking was the factor that significantly increased the level of binge drinking particularly the disinhibition dimension which was strongly

associated with alcohol drinking not only for binge drinking but also lifetime drinking and light drinking. Additionally, the right attitude toward substance use associated with lower level of binge drinking when compared with non-drinkers.

These study results were consistent with previous evidence. For adolescents, the sensation seeking played an important role influencing drinking behavior even in light drinking (Charles et al., 2016). Sensation-seeking is “a trait defined by the seeking of varied, novel, complex, and intense sensations and experiences, and the willingness to take physical, social, legal, and financial risks for the sake of such experience.” (Zuckerman, 1994). Both disinhibition and experience seeking dimension were found to have a significant association with binge drinking whereas only the disinhibition dimension was linked to light drinking. Zuckerman (Zuckerman, 1979) explains that disinhibition as being the most culture-free dimension and is less affected by cultural differences than the other three dimensions. A Japanese college student study (Shibata, 2013) presented the strongest effect of disinhibition on drinking behaviors. Furthermore, a number of studies supported the strong association between disinhibition and drinking behavior either binge or light alcohol consumption (Shibata, 2013).

Self-efficacy and right attitude were found to have a negative association with binge drinking in our study. In this study, we used the BSCQ to measure self-efficacy because the evidence showed similar associations between the BSCQ and the Situational Confidence Questionnaire (SCQ-100) for assessing self-efficacy within alcohol users (Breslina et al., 2000). Consistent with previous evidence another study showed an association between persons who had low self-efficacy with binge drinking (Braun, 2012). This can be explained by the social learning theory that proposes alcohol use and abuse result from low drink refusal self-efficacy combined with high positive but low negative alcohol expectancies (Abrams & Niaura, 1987). On the other hand, the reinforcement of high self-efficacy will reduce alcohol drinking (Black et al., 2012). In adolescents, a positive attitude toward alcohol drinking is associated with binge drinking behavior in the future (Jackson et al., 2014). Evidences have confirmed that the right attitudes toward drinking correlated with higher risk to drink and higher risk to have negative consequences from drinking (Grigsby, Forster, Unger, & Sussman, 2016). The components of attitude involved a cognitive component, an affective component, and a behavior component. The directions of reaction depend on ideas, understanding, and feelings of each person (Alisara Kerdtham, 2005). Alcohol related self-efficacy also has been supported as a predictor of future alcohol use (Adamson, Sellman, & Frampton, 2009).

5. Limitations

There were several limitations in this study. First, the temporal relationships between these four factors and alcohol drinking could not be established in this cross-sectional study. Second, the participants were recruited from one school site. The students may not represent the vocational students in different countries, however, this population would have the same age as other vocational students and parallels could be drawn. Third, some information obtained from students' self-reports were vulnerable to several types of potential bias. Fourth, other risk-taking behaviors related with alcohol problems such as smoking, other substance use and risky sexual behavior were not explored. Finally, the sample size was relatively small in this study. Further study should be done with a larger sample size and in other student settings.

5.1. In the future

This study found the important factor was disinhibition dimension. It should be monitoring among adolescent in school. In Thailand, many programs have been provided to reduce alcohol drinking among students, but no program was focused on sensation seeking, especially the disinhibition dimension.

6. Conclusion

Alcohol use is common in Thai vocational students. High sensation seeking was the important factor associated with the risk of alcohol binge drinking. High self-efficacy and right attitude regarding harm of its use may help decrease the risk of binge alcohol drinking. The implications for policy making regarding alcohol problems in youth should consider these factors in the prevention or intervention programs. Several programs have been used to reduce alcohol drinking among students, however, none of them focused on sensation seeking. Readiness to change was not associated with the risk of current drinking behavior; however, it should also be evaluated before planning treatment (World Health Organization, 2010b).

Acknowledgement

We are grateful to the Integrated Community Management for Substance Abuse Program (I-MAP) (Thailand), Thai Health Promotion Foundation for supporting this piece of research. The budget allocation made available to us enabled the administration of this research. We also thank the Graduate School and Faculty of Medicine, Chiang Mai University.

References

- Abrams, D. B., & Niaura, R. S. (1987). *Social learning theory*. New York: Guilford.
- Adamson, S. J., Sellman, J. D., & Frampton, C. M. (2009). Patient predictors of alcohol treatment outcome: A systematic review. *Journal of Substance Abuse Treatment, 36*(1), 75–86.
- Black, J. J., Tran, G. Q., Goldsmith, A. A., Thompson, R. D., Smith, J. P., & Welge, J. A. (2012). Alcohol expectancies and social self-efficacy as mediators of differential intervention outcomes for college hazardous drinkers with social anxiety. *Addictive Behaviors, 37*(3), 248–255. <https://doi.org/10.1016/j.addbeh.2011.10.004>.
- Braun, R. E. (2012). *Using the integrated behavioral model to predict binge drinking among college students*. Ann Arbor: Portland State University. The University of Toledo.
- Breslina, F. C., Sobell, L. C., Sobell, M. B., & Agrawal, S. (2000). A comparison of a brief and long version of the Situational Confidence Questionnaire. *Behaviour Research and Therapy, 38*, 1211–1220.
- Center for Substance Abuse Treatment (2012). *Enhancing motivation for change in substance abuse treatment. treatment improvement protocol (TIP) series, no. 35*.
- Charles, N. E., Ryan, S. R., Bray, B. C., Mathias, C. W., Acheson, A., & Dougherty, D. M. (2016). Altered developmental trajectories for impulsivity and sensation seeking among adolescent substance users. *Addictive Behaviors, 60*, 235–241. <https://doi.org/10.1016/j.addbeh.2016.04.016>.
- Child Watch Project (2014). *Summary of child and youth's situation in Northern (2013)*. Lampang: Lampang Rajabhat University (in Thai).
- Chonnui, C., & Kanin, S. (2014). In J (Ed.). *The study of knowledge, attitudes, and drug-related skills of persons admitted to the program through a matrix program in Promkiri Hospital, Promkiri, Nakhon Si Thammarat Province*.
- Foster, D. W., Yeung, N., & Neighbors, C. (2014). I think I can't: Drink refusal self-efficacy as a mediator of the relationship between self-reported drinking identity and alcohol use. *Addictive Behaviors, 39*(2), 461–468. <https://doi.org/10.1016/j.addbeh.2013.10.009>.
- Grigsby, T. J., Forster, M., Unger, J. B., & Sussman, S. (2016). Predictors of alcohol-related negative consequences in adolescents: A systematic review of the literature and implications for future research. *Journal of Adolescence, 48*, 18–35. <https://doi.org/10.1016/j.adolescence.2016.01.006>.
- Heinrich, A., Müller, K. U., Banaschewski, T., Barker, G. J., Bokke, A. L. W., Bromberg, U., ... Nees, F. (2016). Prediction of alcohol drinking in adolescents: Personality-traits, behavior, brain responses, and genetic variations in the context of reward sensitivity. *Biological Psychology, 118*, 79–87. <https://doi.org/10.1016/j.biopsycho.2016.05.002>.
- Hosiri, T., Sittisun, C., & Limsricharoen, K. (2016). Drinking behavior and its prevalence in grade 10th students. *Journal of The Psychiatric Association of Thailand, 61*(1), 3–14.
- IBM Corp (2013). *IBM SPSS statistics for windows, version 22.0*. Armonk, NY: IBM Corp.
- Jackson, N., Denny, S., Sheridan, J., Fleming, T., Clark, T., Teevale, T., & Ameratunga, S. (2014). Predictors of drinking patterns in adolescence: A latent class analysis. *Drug and Alcohol Dependence, 135*, 133–139. <https://doi.org/10.1016/j.drugalcdep.2013.11.021>.
- Kerdtham, A. (2005). *Media exposure, attitudes and factors affecting to soft drink consumption among teenage* (Masters Degree)Rangsit University.
- McKay, M. T., Percy, A., Cole, J. C., Worrell, F. C., & Andretta, J. R. (2016). The relationship between time attitudes profiles and self-efficacy, sensation seeking, and alcohol use: an exploratory study. *Personality and Individual Differences, 97*, 203–209. <https://doi.org/10.1016/j.paid.2016.03.060>.
- Miller, W. R., & Tonigan, J. S. (1996). Assessing drinkers' motivation for change: the Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES). *Psychology of Addictive Behaviors, 10*, 81–89.
- National Examination Survey office. (n.d.). Thai health survey by Physical Examination

- Report 4th, 2008-9. Nonthaburi, The graphico system company.
- Office of the Narcotics Control Board (2013). The principles of drug prevention project by the experience of the United States. *Journal of Office of the Narcotics Control Board*, 29(3).
- Prochaska, J. (2016). Stages of change. Retrieved from <http://www.smartrecovery.org/resources/articlesessays.htm>.
- Sae-hgow, U., Wijitkunakorn, P., & Assanangkornchai, S. (2016). *Facts and numeral: Alcohol in Thailand*. Songkhla: The Center for Alcohol Studies.
- Sanchez, Z. M., Santos, M. G. R., Pereira, A. P. D., Nappo, S. A., Carlini, E. A., Carlini, C. M., & Martins, S. S. (2013). Childhood alcohol use may predict adolescent binge drinking: A multivariate analysis among adolescents in Brazil. *The Journal of Pediatrics*, 163(2), 363–368. <https://doi.org/10.1016/j.jpeds.2013.01.029>.
- Shibata, Y. (2013). Sex differences in the effects of disinhibition, perceived peer drinking, and delay discounting on drinking among Japanese college students. *Personality and Individual Differences*, 55(7), 766–770. <https://doi.org/10.1016/j.paid.2013.06.011>.
- Statistical Forecasting Bureau, & National Statistical Office (2014). *The smoking and drinking behaviour survey 2014*. Bangkok: Text and Journal Publication Ltd.
- Tantirangsee, N., Assanangkornchai, S., & Geater, A. F. (2014). Trends and associated factors of alcohol consumption among Southern Thai adolescents, 2003–2009. *International Journal of Alcohol and Drug Research*, 3(3), 219–225.
- The Center for Alcohol Studies (2013). *Alcohol consumption and the negative effects in 2013: International Health Policy Program Foundation*. Ministry of Public Health.
- Van der Zwaluw, C. S., Kleinjan, M., Lemmers, L., Spijkerman, R., & Engels, R. C. M. E. (2013). Longitudinal associations between attitudes towards binge drinking and alcohol-free drinks, and binge drinking behavior in adolescence. *Addictive Behaviors*, 38(5), 2110–2114. <https://doi.org/10.1016/j.addbeh.2013.01.012>.
- Wongtongkam, N., Ward, P. R., Day, A., & Winefield, A. H. (2014). The influence of protective and risk factors in individual, peer and school domains on Thai adolescents' alcohol and illicit drug use: A survey. *Addictive Behaviors*, 39(10), 1447–1451. <https://doi.org/10.1016/j.addbeh.2014.05.026>.
- World Health Organization (2010a). ATLAS of substance use disorders: Resources for the prevention and treatment of substance use disorders (SUD). Retrieved from www.who.int.
- World Health Organization (2010b). *Brief intervention, the ASSIST-linked brief intervention for hazardous and harmful substance use manual for use in primary care*. France: World Health Organization.
- World Health Organization (2012). World Health Statistic 2012. Retrieved from www.who.int.
- World Health Organization (2014a). Global status report on alcohol and health 2014. Retrieved from http://www.who.int/substance_abuse/publications/global_alcohol_report/en/.
- World Health Organization (2014b). World Health Statistic 2014. Retrieved from www.who.int.
- Zuckerman, M. (1979). *Sensation seeking: Beyond the optimal level of arousal*. Hillsdale, NJ: Erlbaum.
- Zuckerman, M. (1994). *Behavioral expressions and biosocial bases of sensation seeking*. New York: Cambridge University Press.