Survey on the Use of Line Instant Messaging Application to Change Smoking Behavior

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Abstract
The objective of this study is to survey youth behavior in smoking cigarettes and ranking of communication channels and types of anti-smoking multimedia. A total of 90 graduate and undergraduate students participated in the experiment. Almost participants believe that smoking is not good for one's health. The top-ranked reason for the first trial of smoking is to relieve stress, while the first-ranked preferred media for anti-smoking campaigns is Sticker Line. In addition, the first-ranked preferred multimedia in anti-smoking campaigns is text with pictures.

Keywords: Behavior in smoking, First trial of smoking, Media for anti-smoking campaigns

การสำรวจการใช้ Line Instant Messaging Application เพื่อ
ปรับพฤติกรรมการสูบบุหรี่

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บทคัดย่อ
วัตถุประสงค์ของบทความนี้เพื่อสำรวจพฤติกรรมการสูบบุหรี่ของวัยรุ่นและจัดอันดับช่องทางการสื่อสารและประเภท
ของสื่อที่รณรงค์การเลือกสูบบุหรี่ นักศึกษาปริญญาตรีและปริญญาโทจำนวน 90 คนให้ความร่วมมือในการให้ข้อมูล กลุ่ม
ตัวอย่างเกือบทั้งหมดเชื่อว่าการสูบบุหรี่ไม่ดีต่อสุขภาพ โดยอันดับแรกของการสูบบุหรี่ครั้งแรกคือ   ต้องการผ่อนคลาย
ในขณะที่อันดับแรกของสื่อที่รณรงค์การเลิกสูบบุหรี่ที่น่าสนใจคือ Sticker Line ส่วนรูปแบบการรณรงค์ที่ชอบมากที่สุด
คือการใช้ข้อความและรูปภาพ

คำสำคัญ: พฤติกรรมการสูบบุหรี่ ทดลองสูบบุหรี่ครั้งแรก สื่อที่รณรงค์การเลิกสูบบุหรี่

1. Introduction

The anti-smoking campaigns launched in 1986 by Thai Health Promotion Foundation (Thai Health) were not very successful as indicated by the statistics of revenue from cigarette sales in Thailand. For the seven years after 2009, there was a slight decrease in revenue between 2009 and 2010, but increases in the subsequent years (National Statistical Office, 2014; Thai Health Promotion Foundation, 2014). A study on the effectiveness of the anti-smoking campaigns found an increase in the number of smokers, and the campaigns may have not reached two target groups – new youth smokers with ages between 15-24 years, and young females. Consequently, data from the National Statistical Office show an increase in youth smokers. This indicates that the reason the Thai Health anti-smoking campaigns were not successful was perhaps due to inappropriate channels and modes of communication. The main objective of this research is to survey youth behavior in smoking cigarettes and ranking of communication channels and types of anti-smoking multimedia.

2. Participants

Ninety undergraduate and graduate students from universities in Bangkok participated in this study. Participants were required to be a smoker. Data was collected at universities and entertainment areas. The survey ran for about ten minutes. Each participant was required to fill in the survey form which is used to obtain participants' demographic data, behavior in smoking cigarettes and ranking of communication channels and types of anti-smoking multimedia. Items in the survey are adapted from Ajzen (1991); Ajzen and Fishbein (2005); Donovan and Carter (2003); Khurshid and Ansari (2012); Larsen and Cohen (2009); McCool et al. (2014); Morvan et al. (2009); Sargent (2005); Smith et al. (2007).

3. Analysis of the results and discussion

In this study, the participants are predominantly male (82% of the sample), aged between 20-22 years (58%), and are fourth-year university students (36%). Most respondents believe that smoking is harmful to their health (97%). Most of them have smoked for two to four years (47%), or more than four years (28%). Most smokers have no intention to quit smoking (48%), or have tried to quit one or two times (39%). They tend to smoke around ten cigarettes per day with an average smoking expense of three US dollars per week. The most favorite cigarette brand is LM (39%), followed by Marlboro (27%), and Krongthip (16%). The smoking frequency is daily smoking (39%), smoking with friends (29%) and occasional smoking (28%). The analysis determined that 88% of the sample is currently smoking. Table 1 presents this information in detail.

Table 1 - Participants' demographics and smoking behavior

Items		Number (persons)	Percent
Gender	Male	74	82.2
	Female	16	17.8
	Total	90	100.0
Age	17 - 19 years	23	25.6
	20 - 22 years	52	57.8
	23 - 25 years	15	16.7
	Total	90	100.0
Academic year	1	15	16.7
	2	24	26.7
	3	19	21.1
	4	32	35.6
	Total	90	100.0
Belief that smoking is harmful to health	Yes	0	0.00
	No	87	96.7
	Uncertain	3	3.3
	Total	90	100.0
Years of smoking	Less than 1 year	23	25.6
	2-4 years	42	46. 7
	More than 4 years	25	27.8
	Total	90	100.0
Tried to stop smoking	None	43	47.8
	1-2 times	35	38.9
	3 times or more	12	13.3
	Total	90	100.0
Average cigarettes smoked 10 cigarettes per day			
Average smoking expense 3 US dollars per week			
Smoking frequency	Occasional smoking	25	27.8
	Smoking with friends	26	28.9
	Daily smoking	35	38.9
	Never quit smoking	2	2.2
	Quit smoking 1 or 2 times	0	0.00
	Quit smoking 3 times or more	2	2.2
	Total	90	100.0

Table 1 - Participants' demographics and smoking behavior (continued)

Items		Number (persons)	Percent
Brand of cigarette smoked	LM - 39% Marlboro - 27% Krongthip - 16% SMS - 5% Goal and Falling rain - 2% Other brands - 9%		
Smoking behavior	Used to smoke but not smoking at present	9	10.0
	Used to smoke but quit smoking for 1-6 months	2	2.2
	Currently smoking	79	87.8
	Total	90	100.0

To rank order for issues related to smoking, this study ranks participants' preference by performing a data transformation. The transformation involves multiplying the frequency by the ranking score for each choice (Zikmund et al., 2010). Table 2 tabulates frequencies and ranking of the reasons for the first trial on smoking from 90 participants. A ranking summary can be computed by assigning the reasons with the highest preference the lowest number (1) and the least preferred reasons the highest consecutive number (3). The summarized rank orderings of reasons were obtained with the calculations shown in Table 3. The lowest total score indicates the first (highest) preference ranking. The results show the following rank ordering: (1) to relieve stress, (2) to follow friends, and (3) to do something during leisure time.

Table 2 - Frequencies and ranking of reasons for the first trial of smoking

Unit: number of persons

Reasons for the first trial of smoking	Preference rankings			
	1st	2nd	3rd	Total
To relieve stress	36	12	15	63
Something to do during leisure time	8	30	17	55
To follow friends	13	18	23	54
To gain attraction from others	1	4	10	15
To make a trial	28	10	9	47
To be accepted among friends	3	11	5	19
To gain confidence	1	5	8	14
No response	0	0	3	3
Total	**90**	**90**	**90**	**270**

Table 3 - Rank orderings of reasons for the first trial of smoking

Preference rankings	Ranking score
1st: To relieve stress	(36*1)+(12*2)+(15*3) = 105
2nd: To follow friends	(13*1)+(18*2)+(23*3) = 118
3rd: To do something during leisure time	(8*1)+(30*2)+(17*3) = 119

Table 4 tabulates frequencies and ranking of the preferred media for anti-smoking campaigns from the 90 participants. A ranking summary can be computed by assigning the preferred media with the highest preference the lowest number (1) and the least preferred media the highest consecutive number (3). The summarized rank orderings of preferred media were obtained with the calculations shown in Table 5. The lowest total score indicates the first (highest) preference ranking. The results show the following rank ordering: (1) Sticker Line, (2) Facebook, and (3) Television.

Table 4 - Frequencies and ranking of preferred media for anti-smoking campaigns

Unit: number of persons

Preferred media for anti-smoking campaigns	Preference rankings			
	1st	2nd	3rd	Total
Radio	9	7	25	41
Television	27	25	31	83
Facebook	40	22	24	86
Sticker Line	13	34	7	54
Other	1	0	1	2
No response	0	2	2	4
Total	**90**	**90**	**90**	**270**

Table 5 - Rank orderings of preferred media for anti-smoking campaigns

Preference rankings	Ranking score
1st: Sticker Line	(13*1)+(34*2)+(7*3) = 102
2nd: Facebook	(40*1)+(22*2)+(24*3) = 156
3rd: Television	(27*1)+(25*2)+(31*3) = 170

Table 6 tabulates frequencies and ranking of the preferred anti-smoking multimedia campaign from the 90 participants. A ranking summary can be computed by assigning the preferred anti-smoking multimedia campaign with the highest preference the lowest number (1) and the least preferred media the highest consecutive number (3). The summarized rank orderings of preferred anti-smoking multimedia campaign were obtained with the calculations shown in Table 7. The lowest total score indicates the first (highest) preference ranking. The results show the following rank ordering: (1) text with pictures, (2) video, and (3) text.

Table 6 - Frequencies and ranking of preferred anti-smoking multimedia campaigns

Unit: number of persons

Preferred anti-smoking multimedia campaign	Preference rankings			
	1st	2nd	3rd	Total
Text	21	10	59	90
Text with pictures	30	56	4	90
Video	39	24	27	90
Total	**90**	**90**	**90**	**270**

Table 7 - Rank orderings of preferred anti-smoking multimedia

Preference rankings	Ranking score
1st: Text with pictures	$(30*1)+(56*2)+(4*3) = 154$
2nd: Video	$(39*1)+(24*2)+(27*3) = 168$
3rd: Text	$(21*1)+(10*2)+(59*3) = 218$

4. Conclusion

In this study, the majorities of participants are male and aged between 20-22 years. Even though the participants believe that smoking is harmful to their health, they continue to smoke around ten cigarettes per day. The top-ranked reason for the first trial of smoking is to relieve stress, while the first-ranked preferred media for anti-smoking campaigns is Sticker Line. In addition, the first-ranked preferred multimedia in anti-smoking campaigns is text with pictures. Though 96% of participants believe that smoking is not good for one's health, they still continue to smoke cigarettes. The participants believe that smoking is challenging, interesting, joyful, worth trying, and helps relieve stress. In addition, they think that smoking makes them look good and more mature. Some smoke during social activities because they believe that non-smokers will not be accepted in a group they are attempting to join.

This research has several limitations. First, most of the participants in this research are male. The opinions and specific character of males may be different from those of females, so study findings may not be applicable to females.

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