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Qualitative study of Singaporean youths' perception of antismoking campaigns: what works and what does not

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ABSTRACT

Background Youths are more likely to rebel against messages perceived to inhibit their independence. In order for antismoking campaigns to be effective with this population, adopting evidence-based strategies is crucial. In this study, we examined youths' reaction to past and ongoing antismoking campaigns, and delineate effective and ineffective components of campaigns as identified by them.

Methods 12 focus group discussions were conducted with 91 youth smokers aged 15–29 years. Data were analysed using qualitative content analysis. A codebook was derived through an iterative process. The data were coded systematically by three coders, using Nvivo V.10.

Results Fear appeals that had no immediate relevance to youths, and campaigns involving humour or sports/dance activities that distracted youths from the antismoking messages, were deemed ineffective. In contrast, elements identified to be efficacious were: positive tone, low-fear visual images, 'low-controlling language' and a genuine spokesperson. Youth tended to favour campaigns circulating on social media platforms. Importantly, youths voiced a lack of tangible support for their efforts to quit smoking.

Conclusions Participants expressed a preference towards antismoking messages that were less authoritative, and perceived a distinct lack of support for their intentions to quit smoking. There is room for incorporating suggestions by participants in future antismoking campaigns. Future research is needed to identify barriers to accessing available support.

Antismoking campaigns play an important role in reducing the prevalence of smoking among youth and young adults.¹ However, antismoking messages generally seem to succeed more with younger children (8th grade and below) compared with adolescents.^{2–3} The early gains of antismoking campaigns appear to dissipate as children increase in age. This is indicated by the peak in smoking uptake during adolescence and with most research reporting that the highest prevalence of smoking is found among young adults.^{4,5}

Developmental changes that increase children's risk of initiating smoking as they transition into adulthood include heightened social comparisons with peer groups, sensitivity to peer pressure, and the emulation of adult behaviour coupled with the lack of understanding of some of the consequences of such behaviour as well as feelings of invincibility and rebellion against authority.^{6–8} Adolescents' feelings of entitlement to make decisions and their maturing cognition also incline them to be more critical of antismoking messages.^{9,10}

There is a great deal of contradictory opinion on what constitutes the most effective type of antismoking campaign for youths.^{11–12} For instance, while some research suggests social disapproval messages are superior to health consequences of smoking messages,¹³ other studies found the reverse.¹⁴ Discrepancies in findings could be due to the fact that campaigns and advertisements comprise multidimensional stimuli that youths also respond to (eg, the emotional tone of the advertisement, the production quality and the sponsorship). There is much to be learnt about the type of message, execution of messages as well as how antismoking messages are mediated by the characteristics and social environments of youths. It will be informative to identify which types of strategies are most effective (or ineffective) so that new campaigns can be designed with a high potential for success.

In this study, we examined youth smokers' reactions towards past and current antismoking campaigns through focus group discussions (FGDs) conducted in Singapore. Singapore's tobacco control laws are strict by international standards¹⁵: The Smoking Prohibition in Certain Places Act enforced by the National Environment Agency renders it an offence to smoke in listed places—which include virtually all indoor areas and places where the public congregate.¹⁶ Smoking under the age of 18 years is also an offence.¹⁷ Additionally, Singapore meets the requirements of the WHO Framework Convention on Tobacco Control (FCTC), which includes a ban on tobacco advertising, promotion and sponsorship.¹⁸

While smoking rates in Singapore are lower than those in the USA, local youth smoking trends are similar to those in the USA, which also sees rising youth smoking rates particularly among young women.¹⁹ According to the National Health Survey 2010, smoking among Singaporeans aged between 18 and 29 years has increased by 33% in just 6 years, from 12.3% in 2004 to 16.3% in 2010.²⁰ This is despite increased youth-targeted tobacco control programmes by the Health Promotion Board (HPB) since 2006.²¹ There is thus a need to examine past and current strategies and identify areas for improvement. No recent peer-reviewed work on this topic has been published using data from Singapore.

METHODS

Sample

Twelve FGDs were conducted with youths aged 15–29 years who had smoked at least once in the past month. Although the Singapore National



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Youth Council defines youth as those aged 15–35 years,²² we limited our recruitment criteria to those aged 29 years as we felt that individuals aged 30 years and above would hold views other than those of teenagers and youths in their 20s. Youths from a variety of social contexts—varying in age, gender, ethnicity and educational level—were targeted for inclusion. Email blasts were sent out to all staff in the Institute of Mental Health, requesting referrals for smokers (non-patients) to form the initial FGDs. Subsequently, the staff referrals were complemented with snowball sampling where smokers who had participated in the FGDs referred their friends. All FGDs were conducted in English.

Of 121 youths who were referred, 91 attended the FGDs. Sociodemographic characteristics of the participants are shown in table 1. The 12 mixed-group (in terms of age, gender and ethnicity) FGDs were conducted from September 2013 to June 2014. The number of participants in each group ranged from 6–10. Each FGD lasted approximately 90 min. All the FGDs were conducted in a closed door meeting room within a mall that is popular among local youths. Participants were paid SGD \$50 at the end of the FGD. The study was approved by the relevant ethics committee (National Healthcare Group Domain Specific Review Board) and all participants provided written informed consent.

Data collection

FGDs were conducted by two team members: a facilitator and a note-taker. The responsibilities of the facilitator and note-taker were to explain consent procedures, ensure that consent forms were signed prior to beginning the focus group and to obtain demographic information. In addition to conducting the discussion, the facilitator ensured that inconsistent, vague and ambiguous comments were clarified and the FGD content was summarised at the end of each section, while the note-taker took careful notes of the group process and seating arrangement. As including a diverse age range in the same FGD may

have an influence on the responses given by participants, another role of the note-taker was to log if any specific group members (based on gender, ethnicity or age group) were reluctant to express their views or had notably different views. The facilitator and note-taker debriefed immediately after the FGDs and later with the rest of the research team to ensure that the perspectives of groups were not missed and that themes unique to a particular group were adequately explored. The facilitators (MS, SS and RF) were trained and experienced in qualitative research methodologies. FGDs were conducted using a common topic guide to ensure standardisation across the focus groups. The questions used to explore youths’ reactions towards anti-smoking campaigns are shown in box 1. Data collection ended when data saturation was reached.

Data analysis

All FGDs were audio recorded and transcribed verbatim. The facilitators checked the transcripts for consistency. The data were analysed using qualitative content analysis, thus allowing themes to emerge with the goal of answering the research question.²³ Nvivo V.10 was used for data analysis (QSR International. NVivo V.10 (Computer software). 2012. <http://www.qsrinternational.com>).

MS, SS, PS and RF independently conducted an analysis of a subset of transcribed FGDs. The data were broken down into smaller units and assigned codes based on the content they represented. Following this, the coded data were grouped together according to concepts to form themes.²⁴ Code terms were discussed and refined, and after a second level of analysis of the same subset of data, a codebook was constructed. Consensus was reached through discussion and iterative review of codes and themes. A fifth author was available to consult if a consensus could not be reached about the categories. However, this was not needed. MS, SS and PS coded the same transcripts (three transcripts in all) using the codebook developed. Inter-rater reliability tests performed on Nvivo V.10 (QSR International. NVivo V.10 (Computer software). 2012. Available from <http://www.qsrinternational.com>) established Cohen’s κ coefficient among the three coders to be 0.74–0.78. The three authors then coded the remaining transcripts independently.

Table 1 Sociodemographic profile of FGD participants

	N=91	Per cent
Gender		
Male	54	59.3
Female	37	40.7
Age group, years		
15–20	24	26.4
21–29	67	73.6
Ethnicity		
Chinese	47	51.6
Malay	29	31.9
Indian	14	15.4
Others	1	1.1
Highest qualification		
PSLE/completed primary education	2	2.2
Secondary	5	5.5
'O'/'N'/completed secondary education	23	25.3
'A' level/completed Pre-U or Junior college	6	6.6
Vocational Institute/ITE Nitec Cert	10	11.0
Diploma	28	30.8
University degree	15	16.5
Other qualification	2	2.2

FGD, focus group discussion.

Box 1 Topic guide questions pertaining to antismoking messages

Grand tour question

I would like to hear your opinion about smoking-related campaigns or messages.

Awareness of campaigns questions

Have you heard or seen any smoking prevention/cessation messages in your school or college?

What about other places? Where did you see these?

Have you come across any advertisements or posters that encourage people to stop smoking?

Can you tell us about these?

Can you remember any particular message?

Have you ever come across any messages, including those on YouTube and Facebook, that you found particularly impactful?

Reactions to campaigns questions

What do you feel/think when you see them?

Do you think young people pay attention to such messages?

Table 2 Selected quotes representing youths' reactions to antismoking campaigns/messages

Themes	Quotes
Expressions of rebellion towards the messages/campaigns	R1 —"I think if anybody don't want to see what they want to see or don't want to hear what they want to hear, I think—you know these things—these images... will just go past you, go over your head and so I think that is where I am at, at the moment." [Male, 23] R2 —"There was this campaign which saying that "One puff and you're hooked" right? There was this slogan... So I-I didn't believe it was true so I tried, I decided to try it out then." [Male, 25]
Criticism of past and current messages/campaigns	F1 —"Scare tactics are just old news. I mean we smoke, we know, we are all educated people. We know the risk of it." [Female, 22] F2 —"I think the reason why we kind of ignore about these messages is because we have the thought that it won't strike us at this age. And it only strikes us when we grow older and you know, probably what would happen? You don't really care." [Female, 22] F3 —"All this warning on the cigarette box, it's just making, it's just, it's not effective. Because it's a bit too exaggerated." [Female, 25]
a) Fear appeals	
b) Distracting approaches	D1 —"Even, even during the 'Too Tuff To Puff' [a sports-themed anti-smoking programme aimed at Primary and Secondary School students that promotes physical activity as a healthier alternative to smoking] also, there was a, I mean I entered football, I-I went to a lot of street soccer competitions right, it's an anti-smoking competition and during the break everybody smokes. It doesn't really send out the message". [Male, 25]
Commendation of particular messages/campaigns and their components	C1 —"Seems positive because I think it's... it's actually recordings of people, taking photos and talking about how they quit, leaving messages, you know like they quit for their loved ones and things like that. I think that the entire thing has a very positive effect but I don't think it works." [Female, 25]
a) Positive tone	
b) Low fear visual images	C2 —"Sometime back I think in Orchard Road [a shopping district that is a popular hangout spot for youths] I saw on-on the road there was actually a box which says "If you smoke, this much amount of tar will be in your lungs". I thought that one was really good. I think that was the only one real like prevention ad which really puts things into perspective" [Male, 27]
c) Temporal relevance	C3 —"When it came out, I was like, Okay, cool. Yeah, but I really don't like it when they use like baby images. It's like a premonition, you know. Like every time I buy a cigarette pack right then there's a baby on it. I'm like "ssss" [makes a wincing sound]. Is my baby going to look like that? [Female, 22]
d) Low-controlling language	C4 —"I think that was most impactful because the smoker themselves know the bad points of it and they said to someone else but they didn't say it to themselves." [Female, 22] C5 —"The shock factor, the wow factor was there, man!... Very simple, simple idea, very simple concept. I think simple filming and... because it puts us in the smokers' position." [Male, 25]
e) Genuine spokesperson	C6 —"She has to cover the hole in order for her to speak and stuff. Every single day she has to do that routine, she has to clean the hole, she has to dress it up so she don't look like so... She's freaky la because who would want to look at people who has a hole in their throat right?... And then she's bald and she said "I'm waiting for my time to go to heaven". It's quite sad lah. I mean, that one is heartfelt. She showed an old photo of her—she looks like supermodel. She's really pretty. It makes me woah, I don't want to be like that, you know?" [Female, 20]
Assertions that messages/campaigns do not lead to behaviour change	B1 —"It's not something that I can say, 'Hey, I'm not gonna smoke for today,' just 'cause the poster's there" [Female, 24] B2 —"Because the campaigns like if it's for quitting lah, I mean I don't see much sincerity in it. If you're charging us so much, if you're increasing the prices year on year on year, then why don't you use the prices—the money that you have—to make someone stand there behind, in front of the poster and give out Nicorette patches, because they are expensive." [Female, 24]

RESULTS

The themes that emerged from the discussion on antismoking messages/campaigns were classified into four broad categories: (1) expressions of rebellion towards messages/campaigns, (2) criticism of past and current messages/campaigns, (3) commendation of particular messages/campaigns and (4) assertions that messages/campaigns do not lead to lasting quitting efforts. The quotes representing each category are presented in table 2.

Expression of rebellion towards the messages/campaigns

Participants generally held dissenting attitudes towards local antismoking campaigns. Most forms of rebellion occurred passively such as by ignoring these messages either by averting their attention from the messages or perceiving the messages without heeding them (see R1).

The clearest form of reactance against antismoking messages were youths' expressed desire to try smoking following exposure to antismoking messages, often referred to as the 'boomerang effect'.²⁵ Several participants felt that the campaigns, like the proverbial forbidden fruit, were the precipitating factor in their smoking experimentation, as it made them more conscious and also curious about cigarettes and smoking (see R2).

Several of the youths felt that the integrity of past local anti-smoking campaigns was diminished because they were regulated by governmental statutory boards. A participant likened anti-smoking messages rolled out by these bodies to 'propaganda'. He was sceptical that these agencies were sincerely concerned about his health as they were about their own agendas. His views were echoed in less radical forms by others who viewed such efforts as a 'hard fisted' approach by the authorities at trying to control their behaviour.

Criticism of past and current messages/campaigns

Fear appeals

The types of messages that participants recalled most readily were fear-appeal messages. Antismoking messages have almost always relied on this strategy.²¹ These came in the form of graphic images of diseased organs with warning labels on cigarette boxes, television advertisements and posters. While such messages were successful in grabbing the youths' attention, participants criticised these messages for several reasons.

First, participants alluded to wear-out effects—the point reached when an advertising campaign loses its effectiveness due to repeated overplay.¹² They explained that while they were

shocked and disgusted by the images during the initial exposures, they became de-sensitised following repeated exposures (see F1).

Second, the threats promulgated by the antismoking messages were too remote in time to be considered seriously. For instance, one participant's counter argument was that he was not smoking long or heavily enough to develop the kinds of diseases forewarned such as lung cancer. Various participants across the FGDs also argued that such diseases were not relevant as they do not affect people their age. Others described fatalistic attitudes towards premature death that need not necessarily be a consequence of smoking (see F2).

There was also strong indication by the youth smokers that fear appeals lacked credibility because they did not match their personal experiences. Many participants made mention of elderly family members who were heavy smokers who remained healthy. Lastly, the majority of the participants doubted the authenticity of the grotesque images. They felt that the images were heavily edited to raise shock-value (see F3).

Distracting approaches

Approaches that attempted to inject humour were also criticised by participants as not being effective. They critiqued these types of advertisements as being 'cheesy' and simply material to 'make fun of'. Past campaigns that attempted to incorporate healthier alternatives to smoking such as sports and dance events were also slighted by the youths. Participants remarked that while they enjoyed participating or observing sports and dance activities, this did not deter them from smoking. They were largely attracted to the freebies while the antismoking message 'got lost' (see D1).

Commendation of particular messages/campaigns and their components

In contrast to the general disregard for the antismoking campaigns, several messages were highlighted by the youths as having some encouraging impact to them. We discuss three local and two foreign-based campaigns identified by the youths. The effective elements identified in these campaigns are described below.

Positive tone

The local 'iQuit' campaign, a recent effort by the Health Promotion Board,²⁶ was commended for being non-stigmatising. In this campaign, smokers pledged to quit for personal reasons. The campaign was on-going and used traditional forms of outreach as well as social media. This extensive outreach paid off as youths were highly aware of this campaign. Some participants also liked the idea of buddying up to quit smoking, since they had begun smoking due to social influences. While some participants acknowledged how 'iQuit' might have helped others, many were unconvinced that it would lead to outcomes for them (see C1).

Low-fear visual images

Another local antismoking message that was perceived positively was a simple message that did not rely on gory images. The message is described in C2 in the table. The high visibility of the message given that it was strategically located on a popular road junction was also praised by a few youths.

Temporal relevance

While graphic images on cigarette packs were generally dismissed, virtually all female participants were affected by pictures

depicting a baby or fetus with messages stating that tobacco causes miscarriage or premature birth (see C3). The relevance of this issue is a key factor for females in the FGDs who were in their 20s. Many verbalised a plan to quit smoking when they were ready to start a family. In addition, these images made them realise that their smoking impacted another life.

Low-controlling language

A particular advertisement that participants were cognisant of and that received the greatest vote of approval was the 'Smoking Kid' advertisement from Thailand, created by Ogilvy and Mather Bangkok, and commissioned by the Thai Health Promotion Foundation.²⁷ The advertisement featured children approaching smokers and asking them for a light. The adults in the video decline them and explain why smoking is a dangerous habit. The children then hand the adults a note that reads 'You worry about me. But what about yourself?'. The main impacting factor identified by youths was the strong dissonance that the advertisement created between their head-knowledge and their behaviour. Several youths also pointed out that having children as message bearers invoked feelings of guilt as it reminded them that they were role models themselves to a younger person. Additionally, they highlighted that when such powerful messages were conveyed, flashy and fanciful media gimmicks were unnecessary (see C4, C5).

Genuine spokesperson

Another video circulating on social media that had a powerful impact on some of the female youth smokers was the Centers for Disease Control and Prevention's antismoking campaign, 'Tips From Former Smokers', which featured ex-smoker, cancer victim and antismoking advocate Terrie Hall's morning routine (see C6).²⁸ As looking unattractive was a very pertinent concern for the young women, observing credible evidence of severe deterioration posed an effective threat to many of them. This advertisement was impactful for several other reasons. One participant remarked that learning about such a person was more effective than seeing pictures of diseased lungs, perhaps due to identification with the spokesperson. The message that was relayed by the victim was viewed as sincere and the poignant emotional tone of the video reverberated with the young women (see C6).

Assertions that messages/campaigns do not lead to behaviour change

Participants who shared their inputs on antismoking messages that they found impactful (described above) were quick to add that these campaigns had transitory influence on them and that such influence was quickly replaced by their physical dependence on nicotine.

Many were frustrated with the local campaigns. While they felt bombarded with messages reminding them to quit, they saw a lack of support that would enable them to quit more easily. Many of the youths had made attempts to quit without much success. They emphasised that their physical addiction required more intensive efforts than lip service and appealed for tangible aids to kick their smoking habit (see B1, B2).

There was also strong criticism of the quality and accessibility of support to quit. Several participants narrated calling in to toll-free quitlines and being left feeling dissatisfied. Many felt that there was no rapport with the tele-counsellor and felt impatient with being asked assessment questions over the phone. They also complained that such services were provided on an ad hoc basis with no follow-up.

DISCUSSION

We observed both overt and covert forms of reactance to anti-smoking campaigns which has been described in previous literature.^{25 29 30} However, it is perhaps erroneous if not unhelpful to reify such rebellion simply as characteristic of adolescent behaviour. Although the youths were critical of many of the local messages, they demonstrated good awareness of their reasons for reacting accordingly and identified components that they perceived as ineffective. It was also evident that there were advertisements for which they had positive comments.

Clearly, fear appeals evoked the most defensiveness among the youths. Their adverse reactions, as described above, mirrored those summarised in a document by Prevention First (based on data from the USA). The document argued against the use of fear appeals, highlighting a clear lack of evidence supporting its use in the substance abuse field.³¹ We observed exceptional instances where scare tactics had a profound impact on youths. Young women in particular were affected by scare messages that were of direct relevance to them—threats to physical appearance and risk of birth complications. While a targeted approach for women is welcomed in view of the rising smoking rates in women, a growing body of literature cautions about unintended consequences of this strategy.³² In particular, tobacco control initiatives focusing on the impact of mothers' smoking on their unborn child raises the issue of stigmatisation, avoidance of help-seeking and poorer treatment by health professionals towards this group.³³ No straightforward solution is available and further research is needed to understand how anti-smoking initiatives can be designed to minimise potential harm to mothers who smoke.

In line with recommendations made by Prevention First,³¹ youths also identified low-fear messages from credible sources as being more impactful. Authenticity of images and sincerity of the message source were highly appreciated by the youths. Messages that compelled youths to empathise with the narrator, such as the Tips from Former Smokers advertisement, were more likely to create an impact. Rigotti and Wakefield³⁴ credited the success of this campaign to the grounding of its design and implementation in the evidence base of health communication research. The campaign used emotive personal testimonials that have shown to reduce the tendency for smokers to generate counterarguments or discount adverse health outcomes as uncommon. Additionally, messages evoking negative emotions have been shown to be more effective than humorous or emotionally neutral ones.³⁵

Messages that used low-controlling language or autonomy-supportive language,³⁶ a strategy adopted in Thailand's Smoking Kid advertisement, were more persuasive to the youths. Theorists explain that by implicitly emphasising self-initiation and choice, threats to freedom are removed and thus reactance is reduced.²⁹ It is also possible that the foreign-based messages were more popular with the local youths because it was accessed through social media. Social media has resulted in a paradigm shift in terms of campaigns.³⁷ Traditional media campaigns have relied on incidental, involuntary exposure, so advertisements that may create discomfort or are perceived as boring or not personally relevant could still achieve wide exposure and potentially impact behaviour. However, with youths being able to regulate their own content, the need to understand what strikes a chord with youths in terms of preference and effectiveness is important. Social media represents a promising strategy to deliver antismoking messages, given how integrated it is in youths' lives. Singapore has the highest internet penetration rate in Southeast Asia.³⁸ Eighty per cent of the population are internet users, with

96% of users having a social media account and the highest users being in the 25–35-year age group, followed by the 15–24-year age group.³⁸ Well-designed campaigns that provide a youth perspective as well as incorporate user generated content may well be the way forward for antismoking campaigns.

It is also likely that foreign campaigns were met with less cynicism because they were not affiliated with local authorities. That said, the iQuit was received more favourably than earlier campaigns. The difference in reception to the iQuit could be attributed to the Health Promotion Board's change in approach. The iQuit, as did the CDC's Tips advertisement, used a personal testimonies format featuring lay people including youths from different ethnic backgrounds—a stark contrast from the scare tactics—and this made the messages more relatable, genuine and encouraging, and less authoritarian.

The findings raise an important question—whether there is a need for campaigns that are targeted at youth specifically. While youth expressed their displeasure with existing campaigns, they also pointed out the positive elements of others, such as iQuit, which were not specifically youth-focused. Other studies have reported similar findings.^{39 40} White *et al*⁴⁰ evaluated the Australian National Tobacco Campaign targeted at 18–40-year olds and concluded that well-funded, multipronged, antismoking campaigns are effective in targeting adolescents and encourage quitting behaviours. Given the limited resources available for large scale campaigns, it seems prudent to invest in multipronged, multimedia campaigns that could incorporate multiple messages—with some being more youth-focused—such as 'refusal-skills' and 'endangering others'.⁶

A strong call for greater and better quality support for quitting smoking was conveyed by the youths during the FGDs. While campaigns were useful in creating cognitive shifts, such effects were ephemeral. Scientifically rigorous programmes should be made easily available and at low cost to support youths in long-term efforts to quit smoking. Many of the youths lacked alternative coping support as well as self-efficacy, that is, one's belief in one's ability to succeed in a behaviour, to quit. A meta-analysis of smoking cessation treatments for youths found that the most effective treatments include motivational enhancement and cognitive behavioural strategies.⁴¹ For example, youths should be provided with the means to overcome ambivalence toward quitting, instruction on how to avoid or counteract cigarette smoking situations, information on the different methods of quitting (including nicotine replacement) as well as strategies to cope with stressful situations. Sussman *et al*⁴¹ also recommended that programmes should be delivered in a structured context for youths, for instance in schools or even workplaces, and that programmes should consist of at least five sessions, since dose-effects were observed up to this point.

Our study had some limitations. First, our sample comprised predominantly older youths. While these older youths were able to introspect and provide a full description of their reactions to campaigns, their views might be qualitatively different from those of younger youths. In general, as this is a qualitative study, and given the non-representative nature of the sample, these findings cannot be generalised to all young people who smoke. However, it is important to point out that our results largely concurred with those of previous studies.^{31 42} Importantly, our study uncovered several effective elements of past and current antismoking campaigns as well as myths about smoking and quitting—still evident in our otherwise knowledgeable youths—that could serve as targets in future antismoking efforts.

What this paper adds

- ▶ The use of fear appeals in antismoking campaigns has been widely criticised. Information regarding the most effective strategies in tackling youth smoking through national campaigns is inconsistent. This study discusses effective elements in past and ongoing campaigns identified by youth smokers.
- ▶ Youths preferred antismoking messages that used a positive tone, low-fear visual images, 'low-controlling language' and genuine spokespeople. Importantly, they voiced a need for tangible support to help them overcome their physical dependence, which current antismoking efforts lack.

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Contributors SS recruited participants, conducted FGDs, conducted data-analysis and wrote the first draft of the article. RF recruited participants, conducted and transcribed FGDs, and gave input into data analysis and the manuscript. PS transcribed FGDs, conducted data-analysis and gave input into the manuscript. JV was involved in the design of the study, gave input into data-analysis and manuscript. LP was involved in the design of the study, was a note-taker in FGDs, and gave input into data-analysis and manuscript. SAC was involved in the design of the study, and gave input into data-analysis and manuscript. MS was involved in the study design, conducted FGDs, led the data analysis and provided feedback on the manuscript.

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REFERENCES

- 1 Brennan E, Momjian A, Jeong M, et al. Mass media campaigns to reduce smoking among youth and young adults: documenting potential campaign targets and reviewing the evidence from previous campaigns (CECCR Working Paper Series). 2012. http://repository.upenn.edu/cgi/viewcontent.cgi?article=1384&context=asc_papers
- 2 Siegel M, Biener L. The impact of an antismoking media campaign on progression to established smoking: results of a longitudinal youth study. *Am J Public Health* 2000;90:380–6.
- 3 Grandpre J, Alvaro EM, Burgoon M, et al. Adolescent reactance and anti-smoking campaigns: a theoretical approach. *Health Commun* 2003;15:349–66.
- 4 Substance Abuse and Mental Health Services Administration. *Results from the 2010 National Survey on Drug Use and Health: summary of national findings; U.S.* Rockville, MD, USA: Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, 2011.
- 5 Substance Abuse and Mental Health Services Administration. *Results from the 2010 National Survey on Drug Use and Health: summary of national findings.* Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration. NSDUH Series H-41;2011. HHS Publication No. (SMA) 11–4658.
- 6 Subramaniam M, Shahwan S, Fauziana R, et al. Perspectives on smoking initiation and maintenance: a qualitative exploration among Singapore youth. *Int J Environ Res Public Health* 2015;12:8956–70.
- 7 Oakes W, Chapman S, Borland R, et al. Bulletproof skeptics in life's jungle: which self-exempting beliefs about smoking most predict lack of progression towards quitting? *Prev Med* 2004;39:776–82.
- 8 Helweg-Larsen M, Tobias MR, Cerban BM. Risk perception and moralization among smokers in the USA and Denmark: a qualitative approach. *Br J Health Psychol* 2010;15:871–86.
- 9 Johnson JL, Kalaw C, Lovato CY, et al. Crossing the line: adolescents' experiences of controlling their tobacco use. *Qual Health Res* 2004;14:1276–91.
- 10 Hong RM, Guo SE, Chen MY. The experiences of tobacco use among South-Western Taiwanese adolescent males. *Int J Environ Res Public Health* 2015;12:10522–35.
- 11 Beaudoin CE. Exploring antismoking ads: appeals, themes, and consequences. *J Health Commun* 2002;7:123–37.
- 12 Biener L, Ji M, Gilpin EA, et al. The impact of emotional tone, message, and broadcast parameters in youth anti-smoking advertisements. *J Health Commun* 2004;9:259–74.
- 13 Pechmann C, Zhao G, Goldberg ME, et al. What to convey in antismoking ads for adolescents? The use of protection motivation theory to identify effective message themes. *J Marketing* 2003;67:1–18.
- 14 Biener L. Anti-tobacco advertisements by Massachusetts and Philip Morris: what teenagers think. *Tob Control* 2002;11(Suppl 2):ii43–6.
- 15 Morrow M, Barracough S. Tobacco control and gender in South-East Asia. Part II: Singapore and Vietnam. *Health Promot Int* 2003;18:373–80.
- 16 National Environment Agency of Singapore. Smoking Prohibition. 2015. <http://www.nea.gov.sg/public-health/smoking> (accessed Dec 2015).
- 17 eCitizen. No-smoking rules in Singapore. 2015. <https://www.ecitizen.gov.sg/Topics/Pages/Smoking-Rules-in-Singapore.aspx> (accessed Dec 2015).
- 18 Lim MK. Graphic health warning on cigarette packs. Health Policy Monitor. <http://hpm.org.sg/a4/2.pdf> (accessed Jul 2015).
- 19 Health Promotion Board. Smoking Control Programmes for Adults. 2014. <http://www.hpb.gov.sg/HOPportal/programmes-article/2490> (accessed Dec 2015).
- 20 Ministry of Health Singapore. National Health Survey 2010. 2013. https://www.moh.gov.sg/content/dam/moh_web/Publications/Reports/2011/NHS2010%20-%20Low%20res.pdf (accessed Dec 2015).
- 21 Ng E. A Look At Why Youths Smoke. *YourHealth AsiaOne* 24 January 2012. <http://yourhealth.asiaone.com/content/look-why-youths-smoke> (accessed Dec 2015).
- 22 National Youth Council Singapore. The State of Youth in Singapore 2014 Statistical Handbook. https://www.resourceportal.nyc.sg/nycp/ShowDoc/WLP+Repository/nycp/resources_fs/nys2013/statshandbook (accessed Dec 2015).
- 23 Hsieh HF, Shannon SE. Three approaches to qualitative content analysis. *Qual Health Res* 2005;15:1277–88.
- 24 Polit DF, Beck CT. *Nursing research: principles and methods.* Philadelphia, PA: Lippincott Williams & Wilkins, 2012.
- 25 Henriksen L, Dauphinee AL, Wang Y, et al. Industry sponsored anti-smoking ads and adolescent reactance: test of a boomerang effect. *Tob Control* 2006;15:13–8.
- 26 Health Promotion Board. Go One Step Closer to a Smoke-Free Life. *I Quit*. 2015. <http://www.hpb.gov.sg/HOPportal/health-article/11946> (accessed Jul 2015).
- 27 Fredrickson T. Thailand's anti-smoking Youtube hit. *Bangkok Post*. 2013. <http://www.bangkokpost.com/learning/learning-from-news/300929/thailand-anti-smoking-youtube-hit> (accessed Jul 2015).
- 28 Centers for Disease Control and Prevention. Tips from Former Smokers: Terrie's videos. 2015. <http://www.cdc.gov/tobacco/campaign/tips/resources/videos/terrie-videos.html> (accessed Dec 2015).
- 29 Miller CH, Lane LT, Deatrick LM, et al. Psychological reactance and promotional health messages: the effects of controlling language, lexical concreteness, and the restoration of freedom. *Hum Commun Res* 2007;33:219–40.
- 30 Sutfin EL, Szykman LR, Moore MC. Adolescents' responses to anti-tobacco advertising: exploring the role of adolescents' smoking status and advertisement theme. *J Health Commun* 2008;13:480–500.
- 31 Prevention First. *Ineffectiveness of fear appeals in youth alcohol, tobacco and other drug (ATOD) Prevention.* Springfield, IL: Prevention First, 2008.
- 32 Burgess DJ, Fu SS, van Ryn M, et al. Potential unintended consequences of tobacco-control policies on mothers who smoke: a review of the literature. *Am J Prev Med* 2009;37:S151–8.
- 33 Bayer R. Stigma and the ethics of public health: not can we but should we. *Soc Sci Med* 2008;67:463–72.
- 34 Rigotti NA, Wakefield M. Real people, real stories: a new mass media campaign that could help smokers quit. *Ann Intern Med* 2012;157:907–9.
- 35 Dunlop S, Wakefield M, Kashima Y. Can you feel it? Negative emotion, risk, and narrative in health communication. *Media Psychol* 2008;11:52–75.
- 36 Vansteenkiste M, Lens W, Deci EL. Intrinsic versus extrinsic goal contents in self-determination theory: another look at the quality of academic motivation. *Educ Psychol* 2006;41:19–31.
- 37 Ramo DE, Thrul J, Delucchi KL, et al. The Tobacco Status Project (TSP): study protocol for a randomized controlled trial of a Facebook smoking cessation intervention for young adults. *BMC Public Health* 2015;15:897.
- 38 Digital Influence Lab Pte Ltd. Digital Marketing Statistics in Singapore. 2015. <http://digitalinfluenceclab.com/singapore-digital-marketing-stats/> (accessed Dec 2015).
- 39 Henley N, Donovan R. Young people's response to death threat appeals: do they really feel immortal? *Health Educ Res* 2003;18:1–14.
- 40 White V, Tan N, Wakefield M, et al. Do adult focused anti-smoking campaigns have an impact on adolescents? The case of The Australian National Tobacco Campaign. *Tob Control* 2003;12(Suppl 2):ii23–9.
- 41 Sussman S, Sun P, Dent CW. A meta-analysis of teen cigarette smoking cessation. *Health Psychol* 2006;25:549–57.
- 42 Cataldo JK, Hunter M, Petersen AB, et al. Positive and instructive anti-smoking messages speak to older smokers: a focus group study. *Tob Induc Dis* 2015;13:1–8.