

'It has candy. You need to press on it': young adults' perceptions of flavoured cigarettes in the Philippines

Jennifer Brown ⁽¹⁾, ¹ Meng Zhu, ² Meghan Moran, ¹ Connie Hoe, ³ Ferdie Frejas, ⁴ Joanna E Cohen ⁽¹⁾

ABSTRACT Background The Philippines has a high smoking

¹Department of Health, Behavior & Society, Johns Hopkins University Bloomberg School of Public Health, Baltimore, Maryland, USA ²Johns Hopkins University Carey Business School, Baltimore, Maryland, USA ³International Health Department, Johns Hopkins University Bloomberg School of Public Health, Baltimore, Maryland, USA ⁴GoodThinking Research, Inc, Manila, Philippines

Correspondence to

Jennifer Brown, Department of Health, Behavior and Society, Johns Hopkins University Bloomberg School of Public Health, Baltimore, MD 21205, USA; jbrow212@jhu.edu

Received 22 November 2019 Revised 17 March 2020 Accepted 21 March 2020 Published Online First 23 May 2020

Check for updates

© Author(s) (or their employer(s)) 2021. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

To cite: Brown J, Zhu M, Moran M, *et al. Tob Control* 2021;**30**:293–298.

Brown J, et al. Tob Control 2021;30:293-298. doi:10.1136/tobaccocontrol-2019-055524

293

other flavoured cigarettes and non-flavoured cigarettes and find flavour capsule cigarettes attractive. A tobacco flavour ban and implementation of plain packaging might help reduce misperceptions of risk and make cigarettes less appealing.

prevalence and one of the largest tobacco menthol

market shares in the world. Flavour capsule cigarettes

were introduced to the Philippines in 2013, most of

which are menthol flavoured, and their market share

Methods We conducted eight focus groups with 63

stratified by gender and smoking status. We conducted a

is increasing. We explored perceptions of flavoured

cigarette packaging among young adult Filipinos.

voung adults ages 18–24 years in Manila in 2019.

Results Most participants assessed relative harm

of cigarettes based on strength, mainly determined

by colour of the packaging. Menthol cigarettes with

primarily blue packaging were considered less harmful

than menthol cigarettes with primarily green packaging.

Many participants considered flavour capsule packs most

menthol cigarettes, due to the colouring of the packs and

attractive, compared with non-flavoured and traditional

expectations regarding taste. Some participants likened

the capsules and the taste of flavour capsule cigarettes

to candy, and many participants thought flavour capsule

cigarettes would most likely be smoked by teenagers or

Conclusions Young adult Filipinos believe that some menthol-flavoured cigarettes are less harmful than

thematic analysis of the transcripts.

INTRODUCTION

young adults.

The Philippines has an adult smoking prevalence of 22.7%¹ and one of the largest menthol market shares in the world.^{2 3} The menthol cigarette market share in the Philippines continues to grow, increasing from 21.7% in 2014 to 22.4% in 2018.³ This is problematic given that menthol cigarettes mask the harshness of smoking⁴⁵ and are associated with increased smoking initiation.⁶ Some consumers believe that menthol cigarettes are less harmful than other cigarettes.⁷ Flavour capsule cigarettes were introduced to the tobacco market in 2007⁸ and sold in the Philippines as early as 2013⁹—their Philippines market share is growing, increasing from 2.5% in 2014 to 4.2% in 2018.³ Most flavour capsule cigarettes are menthol flavoured.^{10 11} Japan was the birthplace of flavour capsule cigarettes, and South Korea has the world's sixth largest flavour capsule market share and recently introduced flavour capsule heat sticks.^{8 11 12} Both of these

countries export to the Philippines. Early research on flavour capsule cigarettes showed that youth and young adults found them more attractive and less harmful compared with non-flavoured cigarettes and expressed an interest in trying them.^{13–17} Research on consumer perceptions of menthol and flavour capsule cigarettes has largely been focused on high-income countries with the exception of research conducted on flavour capsule cigarettes in Mexico.^{13 14} Given the Philippines' significant menthol tobacco market share and the potential for flavour capsule cigarettes to contribute to further growth, it is important to understand consumer perceptions of menthol and flavour capsule cigarettes in this lower middle-income country.

Cigarette packaging is an important marketing tool for the tobacco industry and in the Philippines has become increasingly important due to the strict regulations on tobacco advertising. Advertising in the Philippines is currently limited to point of sale.¹⁸ Packaging design is used by companies to influence consumer perceptions of the product. Tobacco packaging characteristics such as size, opening style, colour and descriptors influence consumer perceptions of appeal and harm and expectations of strength and taste.¹⁹⁻²² Some US adult smokers choose to use flavour capsule cigarettes based on the design of the pack.²³ Our work was guided by the Context of Consumption Framework and literature on tobacco packaging. We used packaging as our visual stimuli and focused on consumers' perceptions of attractiveness and harm.

The Context of Consumption Framework is a theory-informed framework created by design scholars who focus on consumer response to visual information.²⁴ Tobacco control researchers recently adapted the framework to understand how visual changes to the cigarette pack impact consumer perceptions and found that the framework is consistent with how adult smokers in the USA talk about the visual design of cigarette packaging.²⁵ Figure 1 shows our adapted version of the framework and highlights the constructs that were most relevant to our study. The cigarette pack is defined by characteristics such as shape, size, materials (eg, soft vs hard pack), colour and graphics. The Framework categorises consumer response into dimensions: (1) cognitive, (2) affective and (3) behavioural.²⁴ In relation to cognitive response, judgements based on the visual information perceived by the consumer, we focused on perceptions of harm, attractiveness and user associations (ie, what the cigarette pack communicates about the person who uses it).²⁴ In relation to affective response, emotion-driven



Figure 1 Modified Context of Consumption Framework, as adapted from Lee et al.⁴³ This figure was created and is owned by JLB.

responses, we assessed user interest in the product and surprise (ie, whether the pack is perceived as novel to a consumer).²⁴ The Context of Consumption Framework also recognises how consumer perceptions are impacted by personal characteristics such as sex, age, gender and socioeconomic status and visual references, such as other consumer products, colour conventions and nature.²⁴ The aim of the present study was to explore young adult Filipinos' perceptions of flavoured cigarettes, including menthol and flavour capsule cigarettes, and how they interpret commonly used descriptors and imagery on flavoured cigarette packaging.

METHODS

Design and sample

Eight focus groups of 7-8 participants each, totaling 63 participants, were conducted with young adults aged 18-24 years in Metro Manila, Philippines, in March 2019. Participants were recruited by a Manila-based market research company via household recruitment in randomly selected barangays (defined by the Philippines Statistical Authority as the smallest political unit into which cities and municipalities in the Philippines are divided) stratified by income level in Metro Manila. Focus groups were stratified by gender (32 men and 31 women) and smoking status (31 smokers and 32 non-smokers) (table 1). Smokers were defined as those who smoked every day or some days and had smoked at least 100 cigarettes in their lifetime. Eligibility criteria

Table 1	Focus group participant characteristics (n=63)		
Group	Ν	Gender	Smoking status
FG-1	7	Female	Smoker (S)
FG-2	8	Female	Smoker (S)
FG-3	8	Female	Non-smoker (NS)
FG-4	8	Female	Non-smoker (NS)
FG-5	8	Male	Smoker (S)
FG-6	8	Male	Smoker (S)
FG-7	8	Male	Non-smoker (NS)
FG-8	8	Male	Non-smoker (NS)

during the 80-110 min discussion. The cigarette packs shown

included being 18-24 years old, residing in the Philippines, and

Focus group discussions took place at the office of the aforemen-

tioned market research company located in Metro Manila. All

discussions were facilitated in Tagalog by a female Manila-based

researcher fluent in Tagalog and English who has 9 years' expe-

rience in qualitative research and was previously unknown to

participants. A notetaker was also present. A translator observed

the discussions from a second room and translated the discussion into English verbatim, with some interjections to explain

meaning for the student investigator. Participants provided

consent at time of recruitment and before discussions began

were reminded of the study procedures, their right to withdraw

interview guide. The guide was pilot tested with a small group of

market research agency employees who were not familiar with

the project. Participants viewed 26 cigarette packs (figure 2)

Focus group discussions were guided by a semistructured

being able to read and speak Tagalog.

from the study and confidentiality.

Procedures

were legally purchased in Manila in March 2019 and varied by brand, flavour and size. All packs displayed a Philippine pictorial health warning label that covered 50% of the pack, as mandated by law. Following a warm-up activity, participants completed three pack exercises where they placed all of the packs: (1) on a scale from 'least harmful' to 'most harmful', (2) on a scale from 'least attractive' to 'most attractive' and (3) grouped by flavour. Following each activity, participants were asked questions on why they ranked or grouped packs as they did, how the packs are similar and different and what pack characteristics contributed to their ranking or grouping. Questions were then asked about their interpretation of flavour descriptors and specific flavour capsule related imagery and the people they thought would smoke different types of cigarettes.

Focus group discussions were video and audio recorded. Following discussion, participants were debriefed and given information on the burden of tobacco in the Philippines and the content of cigarettes. Participants were reimbursed PHP300 (US ~6) for transportation costs and given an incentive of



Figure 2 Cigarette packs included in ranking and grouping activities. This image was taken and is owned by JB.

PHP1000 (US \approx 20). Following discussions, the student investigator debriefed with the moderator and the Manila-based research team and took notes on their interpretations of the discussion and group dynamics.

Data analysis

The focus group discussion videos were watched, and the audio was translated and transcribed into English. A second person watched the video and listened to the audio and checked the transcripts for accuracy. The transcripts were then analysed using a thematic analysis. We read the transcripts several times to familiarise ourselves with the content and made notes on initial impressions and themes. We then developed a codebook based on initial discussions with the Manila-based research team, emergent themes and the Context of Consumption Framework. Transcripts were coded using an iterative approach; coding was facilitated by MAXQDA Analytics Pro 2018. The transcripts were analysed by theme, looking at the co-occurrence between codes and mapping relationships between them. Finally, summaries were created with illustrative quotes. Findings were compared between and across groups of participants stratified by gender and smoking status.

RESULTS

Harm

Flavour capsule and menthol-flavoured packs were ranked by participants across the entirety of the harm scale. Most participants based their assessments of harm on whether a cigarette was 'light' or 'strong', as determined by packaging colour. Cigarettes deemed 'light' were considered less harmful and cigarettes deemed 'strong' were considered more harmful. Many participants characterised cigarettes as 'light' based on white packaging or light tone (eg, figure 2, packs 4Z and DU) and 'strong' based on red packaging or dark tone (eg, figure 2, packs LE and DN). As one participant said, their group assessed harm '... based on the color. If the color is lighter, it means that the cigarette is not so strong. The darker, the stronger' (FG-4NS). Box 1 contains

Box 1 Responses regarding colour, strength and harm

'The darkly coloured packaging creates the impression that it's strong, thus harmful due to its chemical content' (FG-1,S). 'These "lights", we put them here because they seem to contain fewer chemicals, so we think they are less harmful' (FG-1,S). 'Its whiteness suggests being light or mild' (FG-2,S). 'It looks strong even if its menthol. Because it's dark' (FG-3,NS). 'Because white pertains to light, so if it's lights it has less negative effect' (FG-8,NS).

examples of responses regarding colour, strength of cigarette and perceptions of harm.

Many participants distinguished between a 'cool' or 'light' menthol that was perceived as less harmful and a 'strong' menthol that was more harmful. One participant said, '... there is strong menthol and there is cool menthol' (FG-5,S). This distinction was also evident in the flavour groupings. Green packs were generally grouped as 'strong' menthol (eg, figure 2, 8L, C3, ZT, 71, QD and 37) and blue packs were grouped and described as 'cool' or 'light' (eg, figure 2, PA, BW, G4, 6W and TN). Flavour capsule cigarette packs were generally placed in the latter group, with many participants saying that the 'pop' or 'button' means it is cooler. Comparing menthol cigarette packs, one participant said 'The cigarette which you need to press [the capsule] is lighter compared to Marlboro Black [Menthol]. It depends if you want it [the taste] to be cooler or not' (FG-5,S).

There were some key differences in assessment of harm between groups. In discussion of menthol packs and harm, some male non-smokers associated the green colour with 'nature' and 'organics', saying 'If the colour is green, they're natural, it's mixed with healthy or organic' (FG-7,NS) and 'For me, it's green because it's nature' (FG-8,NS). These perceptions were not iterated by any male smokers or females. Some female smokers associated 'old', meaning cigarettes sold in their 'original' packaging (ie, not new to the market), with more harm. In discussion of packs on the most harmful side of the scale, one participant said, ... those were perhaps made with old formulations, so it can follow that they were not thoroughly filtered. They seem to lack in technology' (FG-1,S). Another participant, referring to the cigarettes ranked as most harmful, such as Jackpot Menthol, first said, 'To some extent, it suggests that those packs from way back are less improved', and then referring to the packs ranked as least harmful, such as Mevius Wind Blue, said 'Unlike these with a more modern touch - they seem to have an improved formulation or flavor' (FG-2,S). These views were not echoed by female non-smokers or males.

At the beginning of the ranking exercise on harm, just four participants acknowledged that all cigarettes are harmful and that there were no 'least harmful' packs. Of the participants that expressed this view, one was a non-smoker (FG-8) and three were smokers (FG-1, FG-5 and FG-6).

Attractiveness

In assessments of attractiveness, colour was often discussed. Packs described as 'colourful' were often ranked as more attractive (eg, figure 2, EJ, TN, MS, M7, PA, S2, D9 and BW). As one participant said, 'If it's colourful, it's going to be attractive' (FG-8,NS). Participants also ranked packs that had blending of colours as more attractive (eg, figure 2, EJ, M7 and D9): 'The way colours were blended and complemented seems very cool and ingenious. We appreciated the rainbow-ish appeal' (FG-1,S). Blue and pink

Box 2 Responses reflecting interest in flavour capsule cigarettes

'I guess it has something to do with the "pop up"... like [(Esse Pop]) and [(Marlboro Ice Blast]). It kind of creates some anticipation of the taste when I reach this point while smoking this stick' (FG-1, S).

'I just find them enticing' (FG-2, S).

'And it's nice to look at. If they'll see this, they will try it' (FG-3, NS).

'It makes you ask and be curious about the cigarette' (FG-4, NS). 'I will try this because it has a button' (FG-8, NS).

packs were usually ranked as more attractive (eg, figure 2, EJ, G4, TN and PA). Women described pink as appealing because it was 'girly' (FG-2,S; FG-3,NS) and men described it as appealing because it was 'rare' (FG-5,S; FG-7,NS).

Flavour capsule cigarette packs (figure 2, 6W, BW, S2, EJ, SV, D9, PA, YH, M7 and G4) were generally ranked as more attractive. In discussions of flavour capsule packs and why they were considered attractive, many participants discussed how the packs piqued their interest. Box 2 contains responses that demonstrate the participants' interest in the flavour capsule cigarettes. Some participants also said flavour capsule cigarettes were more attractive due to their expectations regarding taste: 'With that ball, if it has that colour, it will have a different taste' (FG-8,NS) and 'When you try, it has a cooling effect' (FG-4,NS). In discussions of the flavour capsule cigarettes, participants also talked about the finish of the pack and how a shiny finish was attractive: 'Actually, it will be more attractive in minimal light, especially in clubs, because of its luminous effect' (FG-2,S).

Most participants did not mention menthol flavouring in discussions of their assessments of attractiveness. A couple of female participants mentioned that they thought the traditional menthol packs were attractive. In discussion of menthol packs, one participant said, 'More attractive, it is mentholated' (FG-4,NS).

Flavour capsule cigarettes: imagery, descriptors, and audience Imagery

Most participants equated the 'button' or 'circle' imagery found on flavour capsule cigarettes (figure 2) with the release of flavour. One participant said, 'The imaging also emphasizes the flavor and the sensation it would give. Like this one. It shows that when you pop this section, it would heighten the flavor ...' (FG-2,S). Another participant said, 'That's located inside and once you press it, the flavor will come out' (FG-7,NS). A couple of participants in the non-smoker groups mentioned not previously being aware that you could press something in the cigarettes to release flavour prior to the discussion (FG-4 and FG-8). Most participants also held the expectation that the flavour that would be released from capsule cigarettes was menthol. One participant said, 'Because all the cigarettes that have "pop" are menthol' (FG-6,S). A few participants equated the capsule to candy, saying 'It serves as a candy' (FG-4,NS) and 'It has candy. You need to press on it' (FG-5,S).

Flavour descriptors

Most participants described the 'purple' flavour, as named in Marlboro Fusion Purple and Winston Purple Mint (figure 2, S2 and D9), as grape. A couple of participants said 'purple' might taste like 'ube' (purple yam, a popular dessert flavour in the Philippines) (FG-8,NS) or 'eggplant' (FG-6,S). Some participants also said the 'purple' flavour would be 'sweet' and 'cold'. When asked what cigarettes labelled as 'ice', such as Marlboro Ice Blast (figure 2, pack BW), would taste like, most participants said 'cool' or 'cold'. Many also said they would taste like 'candy' (FG-1,S; FG-2,S; FG-3,NS; FG-5,S; FG-6,S) and referenced the candies, Mentos and Snowbear. Some participants said 'ice' would taste like menthol or mint. When asked what cigarettes labelled as 'fresh', like Esse Pop, the slogan for which says 'Pop it fresh, feel the change' (figure 2, PA) would taste like, most participants said 'cool' or 'cold'. Male smokers compared 'fresh' with the taste after brushing your teeth, saying: 'Similar to the taste after brushing' (FG-5) and 'It's like you just finished brushing your teeth' (FG-6).

Audience

During the exercise where participants were asked who would normally smoke specific cigarette packs, we inquired about two flavour capsule packs: Winston Purple Mint and Marlboro Ice Blast (figure 2, S2 and BW). Most participants said that those who would smoke Winston Purple Mint would likely be in their teens or 20s, would be 'party-goers' and most likely female. Most participants said that those who smoke Marlboro Ice Blast could be male or female and would likely be in their 20s or 'millennials'. Some participants thought that Marlboro Ice Blast would most likely be smoked by students. When participants were asked to name their favourite pack, most named a flavour capsule pack. Common favourites were Bohem Mojito Double Boost, DJ Strawberry Mix, Marlboro Fusion Purple and Winston Purple Mint (figure 2, SV, EJ, D9 and S2, respectively).

DISCUSSION

Overall, flavour capsule cigarette packs were considered more attractive than other packs, including non-flavoured packs and traditional menthol packs. The appeal seemed to be a result of the capsule feature that stirred curiosity and created expectations regarding taste, as well as the colours and shiny finish of the packs. This finding aligns with research conducted in Scotland that found that consumers perceive flavour capsule cigarettes to have a better taste and were interested in trying them.^{15 16} Menthol flavouring alone did not seem to be particularly appealing. In assessments of attractiveness, colour was the most discussed factor; the flavour capsule cigarettes named as most attractive were described as bright, colourful and having nice colour combinations, while the traditional menthol and non-flavoured cigarettes that were rated as least attractive were described as dull and often dark. Flavour capsule advertising has also been described by other researchers as 'colorful, dynamic and innovative'.²⁶ Our findings are consistent with advertising research on chroma and value of colour that found that advertisements using high chroma colours (ie, rich and deep) are more liked than ads with low chroma colours (ie, dull) and ads with colours of higher value (ie, colours with a 'whitish' quality) are more liked than ads utilising colours of lower value (ie, colours with a 'blackish' quality).²⁷ Research has also found that both children and young adults have positive reactions to bright and light colours and negative emotions to dark colours.²⁸ ²⁵

In terms of harm, there was generally no differentiation between flavour capsule packs and non-flavoured cigarettes. This is consistent with some qualitative research¹⁶ but conflicts with the findings of other research where flavour capsule cigarettes were perceived as less harmful than non-flavoured cigarettes.^{14 15} However, regarding menthol cigarettes, participants differentiated between different types of menthol—a light menthol was perceived as less harmful and a strong menthol that was thought to be more harmful. Again, colour was key to these assessments—blue packs were generally considered light and less harmful and green packs were generally considered strong and more harmful.

The finding that consumers perceive cigarette packaging colours to be an indicator of strength is consistent with existing research.^{30 31} Our finding that blue menthol packs are generally perceived as less harmful is in line with past research that found tobacco packs labelled 'blue' or primarily coloured light blue were perceived as less harmful.¹⁹ ²² ³² ³³ Research on cigarette packaging in select jurisdictions in Canada has found that blue was used to convey menthol-like qualities after menthol bans were implemented.^{34 35} However, to our knowledge, this is the first study to find a clear distinction between consumer perceptions of green and blue menthol cigarette packs and harm. We speculate that the finding that blue menthol packs are considered less harmful than the green menthol packs may be related to the amount of time packs have been on the market. Given that blue is observed to be used in the design of menthol packs that are new to the market,³⁴ the perception that the older green menthol packs are more harmful may be related to the perception that some consumers hold that older cigarette variants somehow include 'less technology' and are 'not thoroughly filtered'. This is in line with findings that demonstrate how packaging and product innovations (eg, capsule and other filter technologies) are key to tobacco industry marketing strategy and are used, in part, to indicate a reduced risk to the consumer.³⁶ There is evidence to support the concern that innovations, in both product and packaging, could communicate reduced risk to consumers as did descriptors like 'low tar' and 'light'.³⁷ Packaging innovations, like 'perfume' packs and packs with an image of a filter and descriptors indicating filter technology, are perceived as lower risk compared with other cigarettes.²¹²² Notably, research examining the effect of colour on cognitive task performances found that compared with red, blue elicits approach behaviour, which is shown to make people behave in a more risky manner.³⁸ If this finding translates to a consumption context, the combination of perceptions of reduced risk and approach behaviour elicited by blue could be particularly problematic.

Contrary to the general consensus that green packs are stronger and therefore more harmful, some male non-smokers associated green packs with 'nature' and 'organics'. This in line with one study of young adults in the USA that found that the colour green is associated with nature and trees.³⁹ It is also possible that these participants associated the colour green with the introduction of 'green' products, which are marketed by companies as environmentally sustainable products and improve customer attitudes towards brands.⁴⁰

Capsule imagery on packs was generally equated with the cigarettes having a ball that can be 'popped' to release flavour. The unconventional flavour descriptor 'purple' was almost universally understood to convey a grape flavour, and 'ice' and 'fresh' were understood to convey a 'cool' and 'cold' sensation. Flavour capsule packs were assumed to be menthol flavoured and the capsule communicated an added coolness to consumers. Sometimes the capsule was likened to candy, and the flavour of flavour capsule cigarettes was often likened to candy. The flavour capsule packs were believed to appeal to a young audience, including teens and young adults. These findings are consistent with previous research.^{13–17 41}

While the intention of this study was not to test the Context of Consumption Framework, using the framework as a guide

informed identification of pack design features that are associated with consumers' cognitive and affective response. As evidenced by our findings, packaging design elements such as colour, and graphics such as imagery and flavour descriptors, are largely associated with Filipino young adult perceptions of cigarette product qualities, such as harm, and perceived attractiveness of the cigarette pack. We also found that these design elements had a notable association with respondents' emotions, often eliciting feelings of curiosity and interest.

Strengths of this study include our use of a research firm in Manila to ensure that our research protocol was culturally appropriate by incorporating their input on our research protocol and interview guide and our inclusion of young adults, a group shown to be particularly susceptible to tobacco marketing. To our knowledge, this is the first study to inquire about consumer perceptions of unconventional flavour descriptors on flavour capsule packs. Due to the qualitative nature of this study and given that our sample was limited to young adults in Manila, findings may not be representative of the young adult population in the Philippines. Another limitation may be our wide definition of non-smokers that included some former smokers, experimental smokers and never smokers. Some never smokers may have deferred to former or experimental smokers in discussion due to their lack of knowledge of cigarettes. We also did not ask participants their regular brand of cigarettes or whether they had tried the specific brands of cigarettes shown.

Policy implications

While unsurprising, it is concerning that participants found flavour capsule cigarettes attractive and likened the capsule to candy, showed a strong interest in them and thought they would most likely be smoked by teens or young adults. In addition, it is also problematic that young adults still perceive some menthol cigarettes to be less harmful than other cigarettes and base this assessment on the colour of packs. In accordance with WHO recommendations, flavoured cigarettes including menthol, should be banned.⁴² The strong growth of the flavour capsule cigarette market and their appeal to young people in conjunction with our findings calls for greater attention to these products

What this paper adds

- The global market for flavour capsule cigarettes, most menthol flavoured, is growing. Youth and young adults perceive flavour capsule cigarettes as more attractive and less harmful than non-flavoured cigarettes and express an interest in trying them. Menthol cigarettes are associated with increased smoking initiation.
- Most of the research conducted on consumer perceptions of flavoured cigarettes has been conducted in high-income countries; few studies have been conducted in low-income or middle-income countries. Limited research has been conducted on consumer perceptions of flavour capsule cigarettes.
- This study demonstrated that young adult Filipinos largely rely on colour of the cigarette packaging to assess perceived harm of the product. Menthol cigarettes in blue packaging are generally considered less harmful, whereas menthol cigarettes in green packaging are considered more harmful. Young adult Filipinos perceive flavour capsule cigarette packaging as appealing and compare the capsule and the flavour of flavour capsule cigarettes to candy.

Original research

and their inclusion in a ban on flavoured cigarettes. The discussion of colour in assessments of harm and attractiveness and a lesser focus on descriptors draws attention to the need for regulations beyond bans on descriptors and strengthens the argument for plain packaging regulations. Plain packaging regulations and flavour bans could make cigarettes less appealing to younger generations and reduce misperceptions of product harm.

Twitter Jennifer Brown @jenniferlynette

Acknowledgements The authors would like to thank Jenina Joy Chavez for her contributions to the study design.

Contributors All authors made a substantial contribution to this research. All authors contributed to the conceptualisation of the study and design of data collection tools. JB and FF led data collection. JB conducted the analyses and wrote the initial draft of the manuscript. MZ, MM, CH, FF and JEC contributed to revisions and finalisation of the manuscript. All authors approved the final version.

Funding JEC holds the Bloomberg Professorship of Disease Prevention at the Johns Hopkins Bloomberg School of Public Health; the earnings from that endowment helped to support this work.

Competing interests None declared.

Patient consent for publication Not required.

Ethics approval All study procedures received ethics approval by the Johns Hopkins Bloomberg School of Public Health Institutional Review Board and the Philippines Social Science Council Social Science Ethics Review Board.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement No data are available. n/a.

Open access This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: http://creativecommons.org/licenses/by-nc/4.0/.

ORCID iDs

Jennifer Brown http://orcid.org/0000-0001-7418-1172 Joanna E Cohen http://orcid.org/0000-0002-3869-3637

REFERENCES

- World Health Organization. Global Adult Tobacco Survey Fact Sheet: Philippines 2015, 2017. Available: http://www.who.int/tobacco/surveillance/survey/gats/fact-sheet-2015.pdf?ua=1 [Accessed Oct 2017].
- 2 Oxford Economics. The influence of the availability of menthol cigarettes on youth smoking prevalence, 2012. Available: https://www.gov.uk/government/uploads/ system/uploads/attachment_data/file/229776/DE795779_Attachment_2_-_Oxford_ Economics_The_influence_of_the_availability_of_ment.pdf [Accessed Oct 2016].
- 3 Euromonitor International. *Tobacco: Euromonitor Passport Database*. London, 2016. Available: http://www.euromonitor.com [Accessed Oct 2017].
- 4 Kreslake JM, Wayne GF, Alpert HR, *et al*. Tobacco industry control of menthol in cigarettes and targeting of adolescents and young adults. *Am J Public Health* 2008;98:1685–92.
- 5 Ahijevych K, Garrett BE. Menthol pharmacology and its potential impact on cigarette smoking behavior. *Nicotine Tob Res* 2004;6:17–28.
- 6 Corey CG, Ambrose BK, Apelberg BJ, et al. Flavored tobacco product use among middle and high school students — United States, 2014. MMWR Morb Mortal Wkly Rep 2015;64:1066–70.
- 7 King B, Yong H-H, Borland R, et al. Malaysian and Thai smokers' beliefs about the harmfulness of 'light' and menthol cigarettes. *Tob Control* 2010;19:444–50.
- 8 Thrasher JF, Islam F, Barnoya J, et al. Market share for flavour capsule cigarettes is quickly growing, especially in Latin America. *Tob Control* 2017;26:468–70.
- 9 Brown JL, Smith KC, Zhu M, et al. Menthol and flavor capsule cigarettes in the Philippines: a comparison of pack design. *Tob Induc Dis* 2019;17:76.
- 10 Euromonitor International. New Product Development in Cigarettes: Innovate or Fail -Keeping Price in Power. London, 2012. (Accessed May 2016).
- Moodie C, Thrasher JF, Cho YJ, et al. Flavour capsule cigarettes continue to experience strong global growth. Tob Control 2019;28:595–6.
- 12 Cho YJ, Thrasher JF. Flavour capsule heat-sticks for heated tobacco products. *Tob Control* 2019;28:e158–9.
- 13 Abad-Vivero EN, Thrasher JF, Arillo-Santillán E, et al. Recall, appeal and willingness to try cigarettes with flavour capsules: assessing the impact of a tobacco product innovation among early adolescents. Tob Control 2016;25:e113–9.

- 14 Thrasher JF, Abad-Vivero EN, Moodie C, et al. Cigarette brands with flavour capsules in the filter: trends in use and brand perceptions among smokers in the USA, Mexico and Australia, 2012-2014. Tob Control 2016;25:275–83.
- 15 Moodie C, Ford A, Mackintosh A, et al. Are all cigarettes just the same? Female's perceptions of slim, coloured, aromatized and capsule cigarettes. *Health Educ Res* 2015;30:1–12.
- 16 Moodie C, Ford A, Dobbie F, et al. The power of product innovation: smokers' perceptions of capsule cigarettes. *Nicotine Tob Res* 2018;20:1157–60.
- 17 Hoek J, Gendall P, Eckert C, et al. Young adult susceptible non-smokers' and smokers' responses to capsule cigarettes. *Tob Control* 2019;28:498–505.
- 18 Campaign for tobacco-free kids. tobacco control laws. tobaccocontrollaws.org. Published 2015 (Accessed April 2016).
- 19 Wakefield M, Morley C, Horan JK, et al. The cigarette pack as image: new evidence from tobacco industry documents. Tob Control 2002;11:i73–80 http://www. pubmedcentral.nih.gov/articlerender.fcgi?artid=1766062&tool=pmcentrez& rendertype=abstract
- 20 Bansal-Travers M, Hammond D, Smith P, et al. The impact of cigarette pack design, descriptors, and warning labels on risk perception in the U.S. Am J Prev Med 2011;40:674–82.
- 21 Hammond D, Parkinson C. The impact of cigarette package design on perceptions of risk. J Public Health 2009;31:345–53.
- 22 Moodie C, Ford A. Young adult smokers' perceptions of cigarette pack innovation, pack colour and plain packaging. *Australas Mark J* 2011;19:174–80.
- 23 Emond JA, Soneji S, Brunette MF, et al. Flavour capsule cigarette use among US adult cigarette smokers. Tob Control 2018;27:650–5.
- 24 Crilly N, Moultrie J, Clarkson PJ. Seeing things: consumer response to the visual domain in product design. *Des Stud* 2004;25:547–77.
- 25 JGL L, Averett PE, Blanchflower T, *et al*. Qualitative assessment of a context of consumption framework to inform regulation of cigarette pack design in the U.S. *Tob Induc Dis* 2018;16.
- 26 German Cancer Research Center. *Menthol Capsules in Cigarette Filters Increasing the Attractiveness of a Harmful Product*. Heidelberg, Germany, 2012.
- 27 Gorn GJ, Chattopadhyay A, Yi T, et al. Effects of color as an Executional cue in advertising: they're in the shade. *Manage Sci* 1997;43:1387–400.
- 28 Boyatzis CJ, Varghese R. Children's emotional associations with colors. J Genet Psychol 1994;155:77–85.
- 29 Hemphill M. A note on adults' color-emotion associations. J Genet Psychol 1996;157:275–80.
- 30 Bansal-Travers M, O'Connor R, Fix BV, et al. What do cigarette pack colors communicate to smokers in the U.S.? Am J Prev Med 2011;40:683–9.
- 31 Lempert LK, Glantz S. Packaging colour research by tobacco companies: the pack as a product characteristic. *Tob Control* 2017;26:307–15.
- 32 Mutti S, Hammond D, Borland R, et al. Beyond light and mild: cigarette brand descriptors and perceptions of risk in the International tobacco control (ITC) four country survey. Addiction 2011;106:1166–75.
- 33 Agaku IT, Omaduvie UT, Filippidis FT, et al. Cigarette design and marketing features are associated with increased smoking susceptibility and perception of reduced harm among smokers in 27 EU countries. Tob Control 2015;24:e233–40.
- 34 Borland T, D'Souza SA, O'Connor S, *et al.* Is blue the new green? Repackaging menthol cigarettes in response to a flavour ban in Ontario, Canada. *Tob Control* 2019;28:e7–12.
- 35 Brown J, DeAtley T, Welding K, *et al*. Tobacco industry response to menthol cigarette bans in Alberta and nova Scotia, Canada. *Tob Control* 2017;26:e71–4.
- 36 Gilmore AB. Understanding the vector in order to plan effective tobacco control policies: an analysis of contemporary tobacco industry materials. *Tob Control* 2012;21:119–26.
- 37 Anderson SJ, Ling PM, Glantz SA. Implications of the federal court order banning the terms "light" and "mild": what difference could it make? *Tob Control* 2007;16:275–9.
- 38 Mehta R, Zhu RJ. Blue or red? Exploring the effect of color on cognitive task performances. *Science* 2009;323:1226–9.
- 39 Kaya N, Epps HH. Relationship between color and emotion: a study of college students. *College Student Journal* 2004;38:396–405.
- 40 Olsen MC, Slotegraaf RJ, Chandukala SR. Green claims and message frames: how green new products change brand attitude. *J Mark* 2014;78:119–37.
- 41 Wackowski OA, Evans KR, Harrell MB, et al. In their own words: young adults' menthol cigarette initiation, perceptions, experiences and regulation perspectives. *Nicotine Tob Res* 2018;20:1076–84.
- 42 WHO Study Group on Tobacco Product Regulation (TobReg). Advisory note: banning menthol in tobacco products. Geneva, Switzerland, 2016. Available: http://apps.who. int/iris/bitstream/10665/ 205928/1/9789241510332_eng.pdf?ua=1 [Accessed Oct 2016].
- 43 Lee J, Averett P, Blanchflower T, *et al.* Qualitative assessment of a Context of Consumption Framework to inform regulation of cigarette pack design in the U.S. *Tob Induc Dis* 2018;16:1–3.