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## Findings for Tobacco Packaging Study (Theme 2)

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## **CAVEAT: QUALITATIVE STUDY**

This qualitative study is intended to provide insights and directions and not a quantitative, precise assessment. The comments made pertaining to the qualitative phase in this report are based on information gathered from a small sample of participants and may not be representative of the overall population. Conclusions pertaining to the qualitative phase should be viewed as hypotheses requiring further quantitative substantiation. We shall not have any responsibility or liability for any business decision made in reliance on the information contained in this report.

## Contents

Executive Summary .....	4
Research Background and Introduction .....	7
Research Methodology .....	8
Perception towards smoking .....	9
Smoking habits (smokers) .....	11
Attitudes towards smoking (non-smokers) .....	14
Existing attitudes and perceptions towards health warning labels on tobacco packaging .....	16
Reaction to the 18 graphic health warning labels tested .....	18
Overall evaluation of the 18 graphic health warning labels in effectiveness of communicating on the dangers of smoking .....	21
Evaluation of the 18 pictures in terms of informing on the dangers of smoking .....	33
Table 1.0 – Summary by profile (Image informs on the dangers of smoking) .....	37
Evaluation of the 18 pictures in convincing smokers to quit smoking .....	38
Table 2.0 – Summary by profile (Image convinces smokers to quit smoking) .....	39
Evaluation of the 18 messages in informing on the dangers of smoking .....	40
Table 3.0 – Summary by profile (Message that informs on the dangers of smoking) .....	43
Evaluation of the 18 messages in the ease of understanding them .....	44
Table 4.0 – Summary by profile (Message that is easy to understand) .....	48
Evaluation of messages or information that are new or different .....	49
Table 5.0 – Summary by profile (Message that is new to me) .....	50
Reaction to the 8 different themes .....	51
Other suggestions to deter smoking initiation (for non-smokers) or reduce smoking consumption / quit smoking (for smokers) .....	54
Conclusion .....	56
Appendix .....	63
Appendix A – Discussion Guide .....	63
Appendix B – Worksheets .....	68
Table of Figures .....	1
Table A: Ranking on overall effectiveness of Graphic Health Warning Labels .....	1
Table B: Rating on pictures that inform on the dangers of smoking .....	2
Table C: Rating on pictures that effectively convince smokers to quit smoking .....	4
Table D: Rating on messages that informs on the dangers of smoking .....	6
Table E: Rating on messages that is easy to understand .....	8

Table F: Rating on messages that is new ..... 11  
Table G: Ranking on the 8 themes tested ..... 13

## Executive Summary

In order to determine an optimal cigarette packaging that deters smoking, a study was commissioned to investigate graphic health warning labels on cigarette packs.

The main purpose of testing these labels is to determine the most effective way to deter non-smokers through graphic health warning labels, and motivate current smokers to think of quitting.

Both smokers and non-smokers recognised the harmful health effects associated with smoking, such as impact on health, finance, deterioration of physical appearance, second-hand smoke, and addiction. Financial burden was the top concern among smokers while second-hand smoke was the main concern among non-smokers, as effects from second-hand smoke were thought to be even more harmful than direct smoking.

Both smokers and non-smokers were able to spontaneously recall and vividly describe graphic health warning labels (GHWLS) as an element of tobacco packaging. "Babies", "lungs", "eye", "foot", "cancer" were common descriptions of the labels. Some labels tested may be new, yet participants recalled seeing them, due to exposure of similar GHWLS in the past or when travelling overseas.

Non-smokers became aware of these images after commonly having noticed cigarette packs belonging to their friends or family members'. Some learnt about these images from cigarette packs displayed in convenience stores or in coffee shops.

However, both smokers and non-smokers also agreed that these labels were not key influences on their smoking behaviour; self-will or strong personal motivators (e.g. for betterment of health) were more significant factors. GHWLS had little to no impact on their smoking behaviour due to de-sensitisation. Some reasoned that some images looked too exaggerated, hence less credible. Ultimately, the GHWLS serve as a warning but their smoking decision is based on the individual.

### **Evaluation of test labels**

Generally, the 18 GHWLS tested were not perceived as new or unique. Participants did not feel there were many distinct differences between the warning labels tested and other warning labels that they had seen locally or overseas.

### **Top 6 most effective labels were C, E, J, D, N and F (overall)**

These images were ranked as most effective in informing the dangers of smoking, starting with C, E, J, D, N and F. These labels were commonly referred to as gory images. The labels illustrated the organs in which smoke flowed through the respiratory system, stillbirth, death or gangrene. They encompassed the fear or scare factor and were relatable to smoking. Such labels were effective in alerting smokers of dangers and has most impeding effect of smoking initiation among non-smokers.

### **Images E, C, J, D, F and N were top images for informing the dangers of smoking**

These images were ranked from most informing to least informing of the dangers of smoking. Images with sordid graphic representations of illnesses such as oral cancer or throat cancer were deemed more impactful. The decomposed flesh, rotten body parts, pigmentation of body parts and intense pain experienced by the victim further enhanced the fear factor.

### **Images L, B, A, Q, G and K were least effective on informing the harms of smoking**

These images were ranked from least effective – ranked 18<sup>th</sup>, 17<sup>th</sup>, 16<sup>th</sup>, 15<sup>th</sup>, 14<sup>th</sup> and 13<sup>th</sup> respectively. These images were not successful in triggering emotional reaction of sadness, fear, anger or disgust towards tobacco use. Death and addiction were seen as less detrimental as compared to diseases or harm inflicted on others.

### **Evaluation of messages on labels**

Mean score summary by profile groups revealed that Message E, C and J informed well on the dangers of smoking – this was aligned with smokers and females. Similarly, Message C, E and J were the easiest to understand. Message I was also deemed easy to understand, particularly by the non-smokers while males felt that Message F was also easy to understand. Label I was categorised into a theme that was different from that of the top labels and able to reach out to a different group of audience - this should be considered as one of the labels to be used for prototype testing. Messages that were concise and direct in stating the serious consequences or harm that could be caused by smoking were most effective.

### **New or different information in labels**

Most of the information was not deemed new or different; smokers and non-smokers were already aware of the harms and consequences associated with smoking. However, there were a handful who felt that gangrene was a disease that they were not too familiar with, especially among the younger smokers and non-smokers.

Some images were deemed new, such as P – aesthetics, and F – dying from smoking. Representations of diseases were commonly seen on cigarette packs in Singapore or overseas. Many female and some younger male participants were concerned about

aging or self-image, and how smoking could cause deteriorations to their appearance. Dying, on the other hand, also triggered the scare factor among participants.

Label P fell into an unique theme on its own, its differentiating approach connected with participants, hence, it should be considered as one of the GHWL to be taken forward for prototype testing.

### **Relevant themes**

“Smoking causes diseases”, “Second-hand smoke impacts your loved ones” and “Smoking harms your child” resonated most among participants.

Diseases were seen as a long-term detriment to one's life, in terms of both health and finances, while many smokers and non-smokers put the well-being of their loved ones before themselves, and empathise with the vulnerability of children who were subjected to the harms of second-hand smoke.

Other relevant themes include finance, self-image, aesthetics and social image.

### **General suggestions to GHWLS**

Labels need to be adapted to the local context.

Both smokers and non-smokers perceived images that were more realistic and relatable, or images that portrayed graphic, repulsive scenarios as more effective in communicating the dangers of smoking. Although the portrayed imagery were scary, many smokers felt that these diseases or detrimental effects will not happen to them till a much later stage in life. At the same time, when compared to real life situations, these images were thought to be overly enhanced/ exaggerated as the participants have not encountered such people or scenarios before.

Incorporating a mixture of labels that are both encouraging and deterring was also frequently suggested. Use of encouraging labels that served as an advice rather than a warning was suggested. Although smokers did not feel encouraged to quit smoking solely by being exposed to GHWLS, they forewarn smokers of the dangers and reminded them to reduce their smoking consumption.

### **6 Recommended GHWL to be taken forward for prototype-testing**

Although the top ranked labels were C, E, J, D, N and F, labels C, E and N were from the same theme (i.e. diseases) and labels C and J were similar images (i.e. oral cancer). Hence, it was recommended to exclude Label J and N to balance the images across the themes. Message I was deemed easy to understand, particularly by the non-smokers, the core target group of the standardised packaging implementation, hence the potential for Label I to reach out to a wider mass. Label P fell into a unique theme on its own, it was perceived new and different and connected well with participants, hence, it should be considered as one of the GHWL to be taken forward for prototype testing. In conclusion, Label C, E, D, F, I and P were shortlisted for further evaluation.

## Research Background and Introduction

The usage of tobacco products has always been a widespread concern worldwide. Singapore adopts a multipronged strategy comprising taxation, legislation, public education, collaborative partnerships and provision of smoking cessation services to reduce smoking prevalence in Singapore.

In March 2015, Ministry of Health (MOH) announced that a public consultation on standardised packaging will be carried out by the end of the year to seek public views on this measure. In addition, Health Promotion Board (HPB) has commissioned *Consulting Group - Asia Insight* to carry out a research project to gather local evidence on the technical specifications for standardised packaging of tobacco products. Findings from the research study will be used to determine the optimal layout for standardised packaging suited for local settings.

The research study will explore four themes of investigation:

- Specific elements of cigarette packaging
- Graphic Health Warning Labels (GHWL)
- Overall layout of a cigarette pack
- Extension to other tobacco products

This report focus on Theme 2 of the study and would cover the evaluation of 18 potential GHWLS on the cigarette packs. These would then be shortlisted into various prototypes, along with other elements from Theme 1 (pack type, pack colour, background and font of side text warning labels) for further testing in Theme 3 of the study. Suggestions for improvements on less impactful graphics were also obtained.

The 18 GHWLS were evaluated through 16 focus group discussions and 1 in-depth interview, with participants from various demographic/ behavioural backgrounds, respectively:

- Smoking status
- Age
- Gender
- Race
- Social economic status

The report will share the findings from the focus group discussions and in-depth interview and present the shortlisted options for consideration.

## Research Methodology

The 18 GHWLS were evaluated over 16 focus group discussions (FGDs) and one in-depth interview (IDI).

Detailed breakdown of group/ IDI profile:

Group	Profile	Number of Participants	Date / Time of FGDs/ IDI
T2-1	Cigarette smokers, aged 18-20, Male	9	1st July, 1900 to 2130
T2-2	Cigarette smokers, aged 21-29, Male	10	7th July, 1900 to 2130
T2-3	Cigarette smokers, aged 18-20, Female	10	6th July, 1900 to 2130
T2-4	Cigarette smokers, aged 21-29, Female	9	8th July, 1900 to 2130
T2-5	Cigarette smokers, aged 30-49, Male	10	29th June, 1900 to 2130
T2-6	Cigarette smokers, aged 30-49, Female	9	30th June, 1900 to 2130
T2-7	Cigarette smokers, aged 50-69, Male	10	11th July, 1000 to 1230
T2-8	Cigarette smokers, aged 50-69, Female	10	11th July, 1300 to 1530
T2-9	Non-smokers, aged 18-20, Male	9	1st July, 1600 to 1830
T2-10	Non-smokers, aged 18-20, Female	10	11th July, 1600 to 1830
T2-11	Non-smokers, aged 21-29, Male	7	5th July, 1000 to 1230
T2-11	Non-smoker, aged 21-29, Male (In-depth interview)	1	7th July, 1600 to 1830
T2-12	Non-smokers, aged 21-29, Female	10	12th July, 1600 to 1830
T2-13	Non-smokers, aged 30-49, Male	8	2nd July, 1900 to 2130
T2-14	Non-smokers, aged 30-49, Female	10	3rd July, 1900 to 2130
T2-15	Non-smokers, aged 50-69, Male	10	13th July, 1900 to 2130
T2-16	Non-smokers, aged 50-69, Female	10	14th July, 1900 to 2130

All discussions took place in English, covering the research scope as defined in the discussion guide (Appendix A). Participants were also asked to complete worksheets at various stages of the discussion to determine their personal ratings on the various elements of cigarette packaging. The worksheets used can be found in Appendix B.

To prevent any bias in the order of exposure to the stimulus or primacy/ recency effects, the 18 GHWLS used were rotated in 3 different orders:

Rotation #	Sequence of labels shown	Groups used
A	A,B,C,D,E,F,G,H,I,J,K,L,M,N,O,P,Q,R	T2-1, T2-4, T2-5, T2-10, T2-11 and T2-16
G	G,H,I,J,K,L,M,N,O,P,Q,R,A,B,C,D,E,F	T2-3, T2-6, T2-7, T2-12 and T2-13
M	M,N,O,P,Q,R,A,B,C,D,E,F,G,H,I,J,K,L	T2-2, T2-8, T2-9, T2-14 and T2-15

## Perception towards smoking

Both smokers and non-smokers recognised the harms associated with smoking, such as throat cancer, lung cancer, irregular heart palpitations, decline in stamina and cancer. Financial burden was the top concern among smokers while non-smokers were mainly concerned with second-hand smoke. Other concerns include negative implications on health, the deterioration of physical appearance and addiction.

The cost of cigarettes in Singapore was deemed expensive, at S\$10 to S\$14 a pack. Long-term smokers also mentioned that cigarette prices have increased multiple folds over the last few decades. Addiction to cigarettes was therefore associated with serious, long-term financial burdens.

*"You think of your future, your health and the costs of the cigarettes, but then you realise you can't quit, you are just in it for life."*  
- Cigarette smoker, aged 21-29, Male

In terms of physical appearance, some participants mentioned the change in skin pigmentation (i.e. yellowish fingers/ finger nails), darkening of the lips and teeth, as well as sagging skin, as some of the negative effects of smoking. Interestingly, many also carried the perception that weight loss was a consequence of smoking.

*"... it reminds me of my husband who smokes quite a bit. His lips were darker, but now that we are just social smokers, it has really lightened a lot."*  
- Cigarette smoker, aged 30-49, Female

Most smokers saw themselves as 'responsible smokers', who were able to practice discretion while smoking. For example, they fully understood the potential harm of inhaling second-hand smoke, which was more harmful due to the absence of a cigarette filter. As such, they mentioned taking measures to avoid smoking in close proximity to their loved ones, as well as children and babies. In addition, with the Singapore government restricting smoking in more public areas, smokers felt that the likelihood of smoking near non-smokers or children had become lower.

*"For me, when I am at the bus stop and I see school children, I try not to smoke."*  
- Cigarette smoker, aged 30-49, Male

*"I think we are in an era where we are not so stupid to smoke in front of a child or baby. We have that mental capacity. It doesn't relate to people who are responsible."*  
- Cigarette smoker, aged 30-49, Female

The repercussions of smoking during pregnancy seemed to be well understood by all participants. All female smokers had refrained from smoking during their pregnancy. Smokers also avoided smoking near pregnant women.

*"I smoked for two years, then I stopped because of the kids... I stopped when I was pregnant.."*  
- Non-smoker, aged 30-49, Female

While the potential negative impacts of smoking were salient, many smokers felt that they should not be attributed to smoking alone. They rationalised their behaviours by saying that these health consequences could also happen to non-smokers, or that the likelihood of experiencing negative health impacts was dependent on the

individual's health conditions. In addition, most participants have not met anyone who suffered severe health impacts from smoking.

*"Frankly speaking, we all know the health hazards that smoking brings. Just that we are already on it.  
We are already hooked.*

*- Cigarette smoker, aged 18-20, Male*

## Smoking habits (smokers)

Depending on age, smoking duration ranged from 6 months to more than 40 years. Main triggers to pick up smoking included stress, being constantly in a smoking environment, boredom, smoking for socialisation purposes (private or corporate settings), and smoking when faced with upsetting situations (e.g. death of a kin, relationship issues).

*"I smoke socially, usually when drinking. My siblings also smoke."*  
- Cigarette smoker, aged 18-20, Female

*"That year was when my father passed away."*  
- Cigarette smoker, aged 50-69, Female

First experiences with smoking were mostly a result of obtaining cigarettes from friends or family members. Only a handful recalled purchasing their first cigarette out of curiosity or upon attaining the legal age of smoking. Smoking initiation usually happened between the ages of 12 to 18, due to peer pressure or the association of smoking with having a 'cool' image. Many male participants also picked up smoking during the National Service because of peer influence. Purchase of own cigarettes occurred when their smoking behaviour became more frequent.

*"I was 18. Roughly around NS time also."*  
- Cigarette smoker, aged 30-49, Male

Some 'social smokers' accepted cigarette offers from friends or colleagues due to image or fear of being unaccepted.

*"Most of my friends are smoking, might as well just join them"*  
- Non-smoker, aged 21-29, Female

Most participants felt that smoking is a personal decision. Majority said that they were less likely to be influenced by friends with regard to if they wanted to continue or stop smoking.

Smoking was also perceived as a lifestyle choice; drinking and socialising were commonly associated with smoking behaviour. Many failed to quit because friends around them, or because the environment in which they were in discouraged them from quitting.

*"My group of friends, actually nearly 20% smoke, after I got my first pack I keep sharing my cigarettes, so now almost all of us smoke, 90%."*  
- Cigarette smoker, aged 21-29, Male

*"Smoking goes hand-in-hand with your lifestyle as well. Your lifestyle changes, then you can cut out smoking. But if you drink as well, smoking must be there."*  
- Cigarette smoker, aged 30-49, Male

Many smokers, including those in the 30-49 year-old age group, hid the habit from their parents or refrained from smoking in front of their family members. Not smoking in front of parents or family members was seen as a form of respect - avoiding disappointment or to prevent their family members from breathing in second-hand smoke. Most smokers smoked outside of their homes as a way of showing consideration towards other members in their home.

*"My parents know that I smoke, but I would never ever smoke in front of them. Sometimes when I'm downstairs and suddenly see my dad coming back, I would go around and act like nothing happens. It's respect."*

- Cigarette smoker, aged 30-49, Male

Younger smokers did not feel the urgency to quit smoking, as illnesses such as cancer was thought to be associated more with old age. They also related less to such illnesses because they had not personally witnessed individuals suffering from conditions caused by smoking in their social circles. On the contrary, they recalled having met non-smokers who had suffered and died from these conditions, including lung cancer.

*"From what I know, smokers don't die of lung cancer, usually non-smokers die of lung cancer. But can due to a lot of things, maybe like I heard from someone saying that he was very healthy and eats organic food and it turns out after he is dead"*

- Cigarette non-smoker, aged 30 – 49, Female

*"Personally, my uncle just passed away due to lung cancer. And he is not a smoker."*

- Cigarette non-smoker, aged 30 – 49, Female

Older smokers regarded dying from smoking more lightly than the others as they were already of a certain age and saw death as being inevitable. Many felt that they do not have too many years left to enjoy their life and smoking was deemed as a form of enjoyment. Only some smokers who were more concerned about the potential harms of smoking, usually having experienced some health issues, tried or intended to reduce cigarette consumption.

*"For me, it is due to health reasons. Because as you grow older, I think you will feel that the more you smoke, you tend to have less stamina. So when you try to smoke less, then you feel that your stamina is improving."*

- Cigarette smoker, aged 50-69, Male

*"45 years already, how to try? I stop I will die."*

- Cigarette smoker, aged 50-69, Female

Those who had previously tried to quit smoking faced withdrawal symptoms, some more life-threatening such as shortness of breath and hospitalisation. From these experiences, some smokers felt that continuing their smoking habits could instead help them live longer.

*"I quit smoking for 6 months. I put on for 20kg. Seriously."*

- Cigarette smoker, aged 30-49, Male

*"Tried to quit twice and I was hospitalised"*

- Cigarette smoker, aged 50-69, Female

Some successfully stopped smoking because of dissention from loved ones (e.g. girlfriend), or out of considerations for the well-being of their family members. Pregnancy was also one of the reasons (for females). Others experienced real-life deterrents such as negative health check-up results (e.g. high pulse palpitations, weakening of the heart), as well as the witnessing of others dying from smoking-related causes.

## Attitudes towards smoking (non-smokers)

Dislike of cigarette smell seemed to be one of the primary reasons for not attempting to smoke in the first place. Many non-smokers mentioned the dislike of the smell as the reason for not accepting cigarette offers, or for not trying to purchase cigarettes.

*"I don't like the smell, I cannot tahan (tolerate) the smell. Very hard to breathe"*  
- Non-smoker, aged 50-69, Female

Non-smokers were also aware of the health and financial consequences of smoking. Smoking is seen as expensive, and most were aware of the approximate prices of cigarettes in Singapore.

*"One of the considerations is the cost. I understand it's a rising cost. I don't know how much is one pack now, probably about 10 dollars. From a practical standpoint, it doesn't make sense to smoke . It gives you harmful effects to your health, I don't see any benefit for smoking."*  
- Non-smoker, aged 30-49, Male

Having newfound interests that motivated them to divert their money away from cigarettes also proved to be effective. Some quit smoking due to financial difficulty in supporting such lifestyle.

*"but mainly because Hello Kitty is getting more expensive. I'll choose Hello Kitty over cigarettes"*  
- Non-smoker, aged 21-29, Female

*"Maybe most people quit because of cost, it will cost quite a bit. The tax in Singapore is quite heavy on smoking, so that's probably one of the reasons they will quit ....."*  
- Non-smoker, aged 18-20, Male

As much as non-smokers disliked smoking, they largely respected the choices of smokers and did not interfere or advised their friends against smoking. Discouragement was more frequent with family members who smoked, such as reminding them of the harmful effects of smoking. Such discouragement was often unsuccessful.

*"No I don't. I feel that I don't have the right to tell him what to do and what not to do."*  
- Non-smoker, aged 21-29, Male

Non-smokers who have never considered picking up smoking felt that smoking depended very much on an individuals' willpower. While they recalled facing peer pressure, picking up smoking was still perceived as within their control. Upbringing was also seen as a determinant of smoking behaviour; many felt that the probability of picking up smoking was lower for those who did not have family members or friends who smoked. At the same time, however, many recounted otherwise.

Ex-smokers quit smoking for various reasons, some for their families (e.g. pregnancy), some for financial reasons and some just could not appreciate any benefits from smoking.

*"I smoked for two years, then I stopped because of the kids...I stopped when I was pregnant."*

*– Non-smoker, aged 30 – 49, Female*

Smoking depended very much on one's self-will and choice of lifestyle. Inert motivations will determine smoking habits and warning labels had minimal influence on smoking choices.

## Existing attitudes and perceptions towards health warning labels on tobacco packaging

Both smokers and non-smokers were able to spontaneously recall and vividly describe graphic health warning labels (GHWLS) as an element of tobacco packaging. "Babies", "lungs", "eye", "foot", "cancer" were common descriptions of the labels. Some labels tested may be new, yet participants recalled seeing them, due to exposure of similar GHWLS in the past or when travelling overseas.

The labels at top-of-mind recall were mostly diseases-related or pregnancy-related detriments. Although these labels were visually disturbing, both smokers and non-smokers felt that they failed to deter smoking in general. Initially, these labels stirred some queasiness among participants, however, de-sensitisation kicked in soon after being exposed to cigarette packs. Non-smokers were more curious of the labels, as compared to smokers- they were drawn to the labels but this did not translate to deterrence for smoking initiation. Smoking depended largely on one's self-will.

*"Maybe for some. But for the real addicts, you can put whatever you want, they will still buy. When the price goes up, they still buy....for non-smokers....not really. I don't think it's a deterrent."*  
- Non-smoker, aged 30-49, Male

Non-smokers became aware of these images after having noticed the cigarette packs belonging to their friends or family members'. Some learnt about these images from the shelves where the cigarettes are placed in convenience stores or in coffee shops. Some non-smokers questioned the placement of cigarette packs in retail stores (behind the cashier), since they felt that the current arrangements potentially gathered curiosity to read the warnings on the pack even more among individuals. Despite being non-smokers, they were aware of the elements on a cigarette pack. Besides the GHWLS, some were also aware of various brands, the use of different colours to signify different flavours, the descriptions on the GHWLS, and the existence of the QuitLine for those who wished to quit. Both smokers and non-smokers felt that the GHWLS were not successfully deterring smokers, as they only served informational purposes. Some non-smokers felt that these images could influence them to think twice about picking up smoking, while the vast majority of non-smokers insisted that smoking depended very much on individuals' will, and the GHWLS did not carry much influence.

*"Bright colours of the different packaging."*  
- Non-smoker, aged 30-49, Female

*"For sure, there is effect in making people think twice..."*  
- Non-smoker, aged 21-29, Male

*"But it depends but there are some people who really hated smoke. For me, even if ten people smoke in front of me, I'm ok with it."*  
- Non-smoker, aged 30-49, Female

*"The effect usually wears off after a while. We do visit convenience shops. At the first sight of it, we probably feel it's very ugly but after a while you get immune to it. So it's not very helpful."*  
- Non-smoker, aged 30-49, Male

Smokers claimed to ignore the labels due to de-sensitisation; these labels do not influence their smoking habits. Self-will or strong personal reasons (e.g. for betterment of health) may have a greater impact on smoking behaviour instead.

*"It doesn't scare us. I mean it doesn't scare me, I don't know about the rest.... I ignore..."*  
- Cigarette smoker, aged 50-69, Female

Images that were more impactful were those which participants were able to draw more personal relevance to, for example, if they knew of someone who suffered from the respective illnesses.

*"Because my family all smokes. My mother passed away because of lung cancer, my sister also."*  
- Cigarette smoker, aged 50-69, Female

Majority of participants realised that the labels were positioned in a negative light. Many thought that using positive reinforcement or more encouraging messages could potentially be more potent in discouraging cigarette consumption.

*"The general factor here is fear tactic. It's not going to work for everything. It can easily replace with an alternative. Why isn't there a single message that is positive?"*  
- Cigarette smoker, aged 30-49, Male

Male smokers aged 30 to 49 years old felt that GHWLS were often discriminatory through portraying irresponsible smoking (passive smoking), as they did not think that this was the case in reality. Some other participants also felt that conditions/ illnesses attributed to smoking could also be caused by a variety of other factors.

*"My main question is, what gives you the right to give such a sweeping statement?" "It's discriminating"*  
- Cigarette smoker, aged 30-49, Male

*"I know someone who doesn't smoke, doesn't drink, she still died of lung cancer at 34. "*  
- Cigarette smoker, aged 50-69, Female

## Reaction to the 18 graphic health warning labels tested

### Labels do not have much impact on smoking behaviour

Many participants (smokers and non-smokers) feel that the images would have minimal or no influence on their smoking behaviour or decision. The images were unlikely to deter them from smoking, make people think twice before picking up smoking, or influence a reduction in smoking consumption. Additionally, participants thought the images on the cigarette packs were too small for them to be able to notice any details or emotions portrayed. Smokers thought they had been desensitised to the graphic images, and generally did not feel that the images affected their purchase of cigarettes.

*"But once we smoke, we don't care. We don't care whether it contains poison. We don't care. We already know. Instead of putting these irrelevant pictures, put something. At the end of the day, we already know. When you keep on emphasizing, we're like rebellious child. The more you tell us no, the more we're like screw you."*

- Cigarette smoker, aged 30-49, Male

*"To me, I think it's useless on the packaging. Wasting money to print it. Very distasteful images. Even the non smokers see it, it is an eyesore to look at..." "I don't think it will prevent somebody from buying the cigarette.."*

- Non-smoker, aged 18-20, Male

### Labels were grouped by different consequences

Participants mainly segregated the 18 images into two main categories, those that had consequences on oneself versus others. Within harmful effects to oneself, there were diseases and non-diseases. Within harmful effects to others, it was about the impact to babies and families. Broadly, labels that were related to body parts depicting oral cancer or throat cancer were considered as gory images, while emotional or children-related images were thought-provoking.

### Labels were not perceived as new

Generally, the 18 GHWLS tested were not perceived as new or unique, especially amongst smokers. Smokers and non-smokers did not feel there were many distinct differences between the warning labels tested and other warning labels they had seen locally or overseas.

*"It's not new. Of course, we have seen it before"*

- Cigarette smoker, aged 50-69, Male

*"This one (Gangrene), I've seen before."*

- Non-smoker, aged 21-29, Male

For non-smokers, they were less exposed to health warning labels on cigarette packs, though some claimed to have noticed their friends' or family members' pack, but the information were not new to them.

*"All these I have not seen before because I don't look at the picture....Knowledge yes"*

- Non-smoker, aged 50-69, Female

### **Gory labels were more impactful**

Gory images with graphic representations of illnesses such as oral cancer or throat cancer were deemed more impactful, as they contained the scare factor. The decomposed flesh, rotten body parts, pigmentation of body parts and intense pain experienced by the victim in these gory images emphasised the fear factor.

Generic messages on cancer (e.g. how dying from lung cancer looked like) were less effective than messages specifying the consequences of certain body parts (e.g. smoking causes throat cancer). This was because the focus on specific body parts made a greater impact and was more convincing.

### **Babies stirred more emotions as compared to children**

On the other hand, the images of babies generated greater empathy amongst the 21-29 year olds, as they were thinking more about their future children. Images with babies also struck a chord for the females with children.

*"pity the baby"*

- Non-smoker, aged 21-29, Female

*"Yes, the picture affects me. In future, this would be my kid."*

- Non-smoker, aged 21-29, Male

*"For me it's when I connect it with the message. The message really jumps, when you see premature birth and the baby suffering..."*

- Non-smoker, aged 30-49, Female

*"Babies are still helpless." "Babies are being affected by smoking."*

- Cigarette smoker, aged 18-20, Female

In contrast, participants seemed to identify less with images of older children. The images containing babies were more capable of touching the soft spot in participants. Children, on the other hand, were seen as less implicated by smoking behaviour, as participants felt that the implications on children were often avoidable through smokers' controlling of their own behaviour.

Smokers, in particular felt that these images were unrealistic, as they saw themselves as sufficiently responsible to avoid smoking in close proximity to children. Images related to family were more identifiable with non-smokers, as they were able to empathise with the position of family members who did not smoke, and who were subjected to the harm of second-hand smoke.

*"Showed a baby suffering from severe effects. Very difficult because they are too young and they don't develop immunity."*

- Non-smoker, aged 50-69, Male

### **Labels depicting death**

Images depicting death were less effective when compared to diseases or gory images. Participants were more concerned about the suffering and pain that precedes death.

### **Labels depicting deterioration of appearance**

All participants aged 21 to 29 years and female smokers aged 30 to 49 years were more concerned about the deterioration of their appearances due to smoking compared to other profile groups. The younger groups felt that prevention starts at their current age while the 30-49 year-old female smokers wished to preserve their external appearances. There were two schools of thought regarding smoking and its correlation with appearances. Some felt that smoking causes dry skin, darkening of the lips, and the staining of nails and teeth, while some knew of ladies who were heavy smokers, but still maintained attractive appearances.

*"Based on the aesthetics. You don't want to look ugly."*  
- Cigarette smoker, aged 21-29, Female

*"It relates to me because I have a colleague who stopped smoking because of the lines she gets on her mouth. She's only 50, 60 years old and she stopped because of that."*  
- Cigarette smoker, aged 30-49, Female

*"Because my job needs me to look a bit not aged. My rice bowl."*  
- Cigarette smoker, aged 30-49, Female

### **Labels should be realistic, relatable and relevant**

GHWS had to be realistic, relatable and relevant to be deemed impactful and more effective to communicate the dangers of smoking.

Realistic images were those that were not thought to be graphically enhanced, or made to look too exaggerated to participants. Image P (Label on premature aging depicting a woman with aged face) was most commonly mentioned as being too exaggerated.

Relatable images referred to those that were easy to understand and relatable to smoking. Images on throat and oral cancer were easily relatable to smoking as they were the organs that were most directly related to smoking, i.e. the organs which smoke travels through. On the contrary, gangrene on the feet was less relatable as participants could not see the direct linkage with smoking.

Relevance referred to situations or illnesses which participants had personally encountered or seen, either through close friends or family members.

## Overall evaluation of the 18 graphic health warning labels in effectiveness of communicating on the dangers of smoking

### **Top 6 most effective labels were C, E, J, D, N and F (based on Table A)**

These images were ranked from most effective in informing the dangers of smoking, starting with Label C. These labels were commonly referred to as gory images. The labels illustrated the organs in which smoke flowed through the respiratory system, stillbirth, death or gangrene. They encompassed the fear or scare factor and were relatable to smoking. Such labels were effective in alerting smokers of dangers and has most impeding effect of picking up smoking among non-smokers.

### **Top 4 most effective labels were C, E, J and D**

The top 4 labels rated for being most effective in communicating the dangers of smoking were labels C, E, J and D. These labels were commonly referred to as gory images. The labels illustrated the organs in which smoke flowed through the respiratory system. They encompassed the fear or scare factor and were relatable to smoking. These were a result of common knowledge and school education, which further reinforced the truth of such information. Severe detrimental effects that could not be concealed (e.g. rotten lips) were more effective than otherwise hidden (e.g. foot rot which could be hidden with covered shoes)

*"For N (Label on Gangrene), it can be covered up...C (Label on smoking causes oral cancer) cannot be covered up"*  
- Non-smoker, aged 21-29, Male

Stillbirth was another commonly known consequence from smoking. Although there were other causes of stillborn apart from smoking, the relation with smoking could be seen with the cigarette buds in the image.

*"It sends the message that cigarettes cause stillbirth....the cigarettes lying around creates a better effect"*  
- Non-smoker, aged 30-49, Female



### **Elaboration on Label C**

The current image was described as what appeared like a piece of rotten flesh, and it was ambiguous to some, in terms of the part of the body it was showing. Participants thought label C could be zoomed out to show a clearer image of the mouth. Label C was also seen as detrimental to one's self image, as participants thought it would affect their social lives or their ability to set good first impressions with the depicted condition.

*"Ya, can't really tell from afar...it just looks like a lump...zoom out a bit, at least people know."*  
 - Non-smoker, aged 21-29, Female

### **Elaboration on Label E**

Label E was thought to be realistic, relevant and relatable. The throat is the passage in the respiratory system which smoke flows through, and some participants had seen people with a hole in their throat, either in real-life or in documentary programmes on television. Many participants pondered about the red lump on the image – guesses revolved around tonsil, adam's apple, rotten tongue, tumour or growth.

*"Because this looks like the tongue is hanging out. The inner tongue, the lump, the oesophagus, or the Adam's apple. There's a hole because the guy is breathing through the neck."*

- Cigarette smoker, aged 30-49, Female

*"It's a growth...cancer growth..."*

- Non-smoker, aged 50-69, Female

### **Elaboration on Label J**

Label J appeared to depict an earlier stage of oral cancer as compared to Label C. This image clearly depicted a mouth, but the scare factor was lower as compared to Label C because decomposition of flesh was of a milder extent. Some participants commented that this could also be a result of bad oral hygiene, while some felt that the portrayed damage could be concealed simply by closing the mouth. Suggestions for Label J included adding more gory elements, as with Label C (e.g. rotten lips or more blood).

*"C is worse than J. Based on the aesthetics. You don't want to look ugly."*

- Cigarette smoker, aged 21-29, Female

### **Elaboration on Label D**

Image D was not realistic to some as they felt that no one would dispose of a stillborn infant in a filthy ashtray or beside a pile of cigarettes. However, it was still effective in communicating stillbirth caused by smoking as this was a common known fact coupled with their soft spot for babies. Male smokers, aged 30-49 years felt the enlarged cigarettes were not a realistic size comparison. Some suggestions included adding a crying or regretting mother with her stillborn child.

*"The cigarette is bigger than premature baby....the baby that looks like sotong (squid)."*

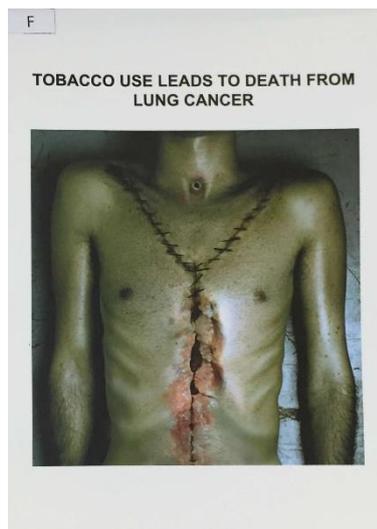
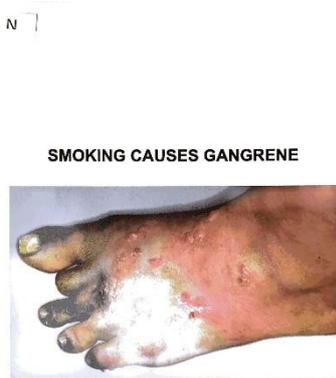
- Cigarette smoker, aged 30-49, Male

*"Maybe a mother crying over the stillborn baby...but leave the cigarettes there."*

- Non-smoker, aged 30-49, Female

### **Elaboration on Label N and F (moderately effective)**

Label N and F were the next two most effective health warning labels in terms of communicating the dangers of smoking. These two images depicted death and gangrene respectively. Similar reasons for being effective - these images also contained elements of gory and garnered a disgusted reaction from participants.



Label N was considered gory and visually disturbing to participants. It was ranked lower than labels that depicted oral or throat cancer due to the foot being less vital in affecting their physical appearance. A participant stated that she knew of a smoker who contracted gangrene on the hand. It was suggested that an image of gangrene on the hand could be more relatable, as a smoker uses his or her fingers when smoking.

Male smokers, aged 30-49 years and female smokers, aged 50-69 years also associated gangrene to diabetes rather than smoking. Hence, Label N was less impactful in communicating the dangers of smoking among these two profile groups.

*"My colleague got gangrene on the hand...some more still use a lot of tape...used tape to cover the wound, but still smoke"*  
 - Non-smoker, aged 50-69, Female

*"Smoking causes gangrene, but diabetic patients also."*  
 - Cigarette smoker, aged 30-49, Male

*"Gangrene - you get it because you are diabetic...I don't think smoking affects this...it's just scare tactics. Doesn't work."*  
 - Cigarette smoker, aged 50-69, Female

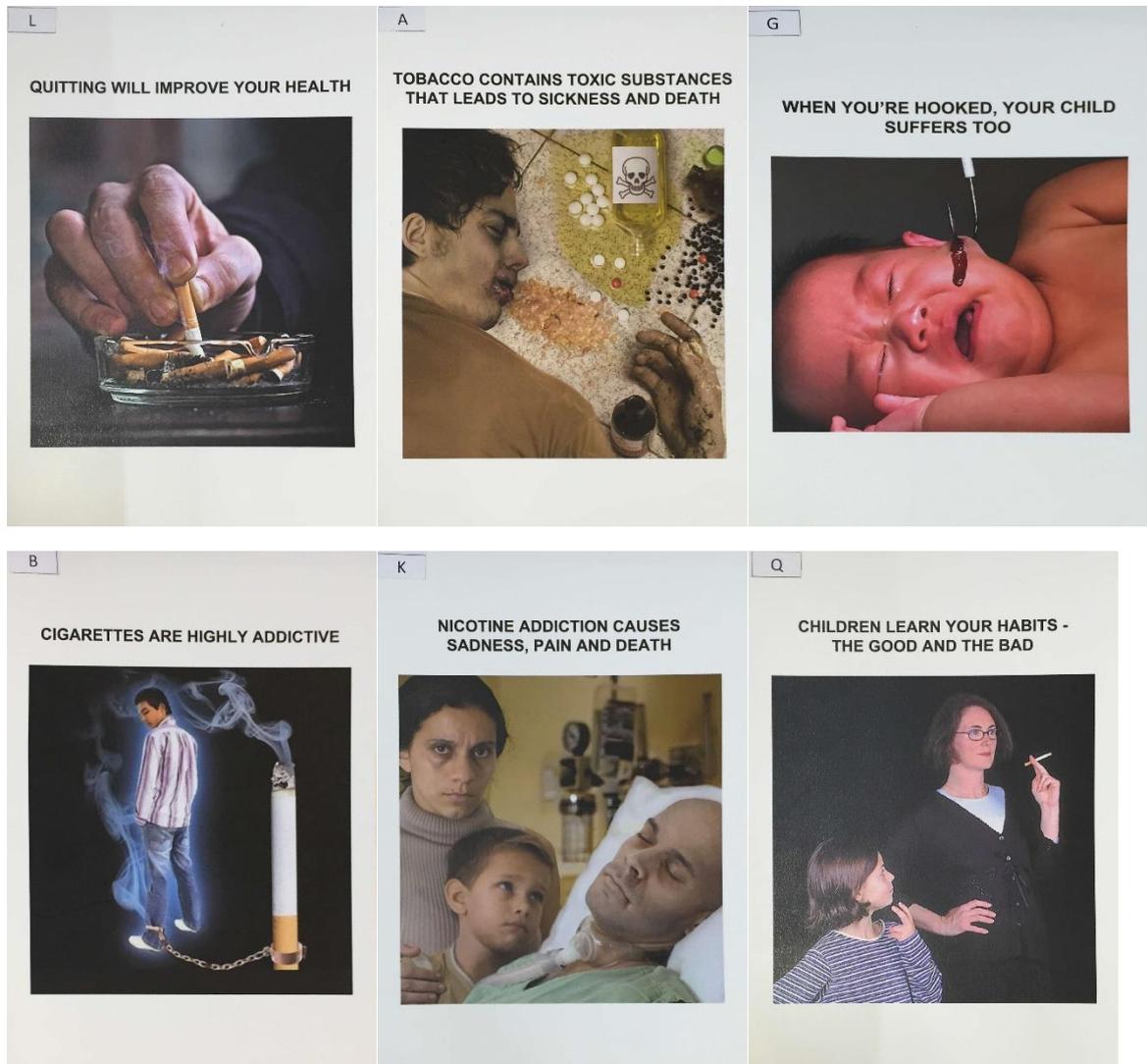
Label F depicted lung cancer and the final autopsy of lung cancer. This image was revolting to participants and contained the scare factor. Most participants expressed that diseases were worse than death. Participants were more fearful living with severe health consequences and financial burdens than death. Some suggestions for improvements included exposing the blackened lungs in between the opened ribs or placing the blackened lungs beside the dead body.

*"Death is imminent"*  
 - Cigarette smoker, aged 50-69, Male

*"This is the aftermath, the condition of your body over the cycle. In the end, this is the end result."*  
 - Non-smoker, aged 21-29, Male

**Least effective labels were L, A, G, B, K and Q (based on Table A)**

Less effective GHWLS included Labels L, A, G, B, K and Q (ranked 18<sup>th</sup>, 17<sup>th</sup>, 16<sup>th</sup>, 15<sup>th</sup>, 14<sup>th</sup> and 13<sup>th</sup> respectively). These were generally seen as ambiguous – not showing direct relations with smoking. These images were seen as neither gory nor capable of evoking emotional discomfort.



**Elaboration on Label L**

Label L was regarded as the only positively-positioned image, with a more encouraging message. However, the image did not show how quitting could improve one's health. On the contrary, it portrayed a hand stubbing out a fully-consumed cigarette, which was a contradiction to the intention of quitting. Moreover, the ashtray was full of cigarettes, which showed how much the individual had 'enjoyed smoking' and had no intention of quitting. Some participants also mentioned that it looked more like an image for an anti-littering campaign.

Some suggestions for improvements included showing a hand crushing a pack of cigarettes, or showing the stubbing out of a relatively unfinished cigarette. Since cost was an area of concern to most participants, they also suggested showing a bill rolled

up like a cigarette and burning it while changing the tagline to “quitting will improve your wealth”.

*“No harm no deterrence. Just stubbing the stick. Nothing to learn about this picture.”*  
- Non-smoker, aged 18-20, Male

*“I’m thinking from the point of view of wealth. Maybe the cigarettes can be substituted by burnt notes, like he’s burning money.”*  
- Non-smoker, aged 30-49, Male

Female non-smokers, aged 50 – 69 years found Label L to be more appealing than other profile groups. They felt that this could encourage smokers to quit smoking. There were many smokers around them whom they cared for and hope for the betterment of their health by quitting smoking.

*“I agree with this thing. You can smoke a lot a lot but if you want to quit, it will still improve your health...that’s what I feel. If a person really wants to quit there is still hope.”*  
- Non-smoker, aged 50-69, Female

### **Elaboration on Label A**

Label A was commonly described as ‘OD’ (overdose). Participants could not see the relation of this image to smoking. It appeared to be a depiction of drug abuse or suicide as the entire image contained no picture of cigarettes. Even with the message, the idea of ‘toxic’ and its consequences were not delivered. Suggestions included replacing the drugs with cigarettes or showing the different components of a cigarette with its various toxic substances that could be easily understood by participants. Some participants also mentioned that the message was too long. Other suggestions included shortening of the sentence to ‘tobacco leads to sickness and death’. There were also arguments that many other factors unrelated to smoking could lead to sickness and death.

*“We have not seen anyone smoking and having this...more like a drug overdose.”*  
- Cigarette smoker, aged 30-49, Male

That said, male non-smokers, aged 21-29 years, felt that Label A was effective in communicating the deadly contents in a cigarette, pain and suffering. Hence, this profile rated this label more effective as compared to other profile groups.

*“It’s lying there, dead...a lot of substance inside cigarette...related to tobacco...I can see the pain, suffering of the guy there.”*  
- Non-smoker, aged 21-29, Male

### **Elaboration on Label G**

Label G stirred emotions of cruelty towards the baby. Many felt that it was akin to abuse to hook a baby’s face while some felt that the baby looked too chubby to portray an image of danger. Some have seen this image on the current cigarette packs. Many smokers who had seen this label before felt that the small-sized image on the cigarette pack did not show the hook clearly, and it was confusing as to what the warning label was trying to say. The message was ambiguous to participants as well, as ‘being hooked’ was applicable to other vices apart from smoking.

*“From the picture, nothing to do with smoking. The baby is still fat and healthy.”*  
- Non-smoker, aged 50-69, Male

### **Elaboration on Label B**

Label B was seen as less impactful because participants thought it was graphically edited (i.e. “photoshopped”). While participants understood that the chain and enlarged cigarette were metaphoric, the message of addiction was not depicted explicitly. Common comments from participants included the chain being too thin to be noticed, and the man looking too “cool” to be in danger since there appeared to be no struggle with addiction. Some suggestions for improvements included depicting the man in a worse state, crawling and struggling on the floor or attempting to saw an enlarged chain to escape.

*“It's not effective. It doesn't say that it's highly addictive... it just says that it's easily addictive...he shouldn't look so cool, he should be begging for the cigarette... or maybe chain to the wallet..I didn't notice the chain, it was too small.”*  
- Non-smoker, aged 30-49, Female

### **Elaboration on Label K**

Label K was interpreted as a man dying, and showing his family members under emotional distress. However, the cause of dying was not clearly associated with smoking or nicotine. Only some participants noticed the tube attached to the man's throat, while most failed to notice. With that said, the tube was thought to be usable in many other medical conditions unrelated to throat cancer or smoking-related illnesses. Many participants also commented that the expressions on the child and woman's faces were confusing – the child looked sad while the woman looked more angry than sad. The message of ‘nicotine addiction causes sadness, pain and death’ was not perceived strongly as many other factors could also lead to sadness, pain and death. Suggestions for improvements on the image included showing the boy and woman crying.

*“Based on the picture it doesn't imply that he's dying from smoking, just some sickness.”*  
- Cigarette smoker, aged 50-69, Male

### **Elaboration on Label Q**

Label Q was seen as a neutral educational campaign that was not restricted to smoking. The woman in the picture looked distant and seemed unrelated to the child. There was no cigarette smoke from the woman's cigarette and the intention of the child to smoke was not obvious enough. These days, children have more avenues of learning and picking up bad habits. The message seemed too trivial and unperturbed to participants (“children learn your habits – the good and the bad”). Some mentioned that this could be a general educational message for many other vices and bad habits of parents or guardians. Some suggestions for improvements included getting the child to hold a pencil or cigarette-like object to mimic smoking, or showing a child sneaking behind the lady with a cigarette, while the message could be revised to “children learn your bad habits”.

*“I think in the age today, a lot of kids pick up from internet, TV, from school as compared to... my point here is that, kids are more exposed to the outside world rather than directly towards us. In that sense, this is so-called not relevant.”*  
- Cigarette smoker, aged 30-49, Male

*"It's a very generic sentence, the good and the bad. It's not focused on smoking."  
- Cigarette smoker, aged 30-49, Female*

Smokers, aged 50-69 years, perceived label Q to be relatively more effective because they believed that children may adopt bad habits of adults, many speaking from personal experiences. This label connected with them in a stronger way because children and loved ones were of their utmost concern.

*"I think for us smokers, we all start because of our parents."  
- Cigarette smoker, aged 50-69, Female*

*"Have to think of others, not only ourselves. Our loved ones suffer, we suffer, don't want others to suffer..have family will think of family, no family will think of loved ones"  
- Cigarette smoker, aged 50-69, Male*

### **Label H was ranked 7<sup>th</sup> most effective in communicating the dangers of smoking (based on Table A)**

Label H was the seventh most effective label – it depicted pre-matured birth, which expressed the fragility of a baby, emphasised by the tubes and extremely small size of the baby's head in contrast with the hand of a guardian. However, some smokers and non-smokers mentioned that premature birth could also be caused by other factors, including malnutrition or stress.

*"Smoking is not the only cause for this...it may happen even when the mum don't smoke."  
- Non-smoker, aged 18-20, Female*

Male, non-smokers, aged 21 to 29 years felt stronger emotions and empathy from Label H. They perceived themselves as 'family men' and would put their family members' well-being as priority.

*"To be on a tube at this age. The left arm is wrinkled. It's quite sad. I think this kid is not very young because the hair is very well developed, and he has to go through this type of treatment. If you're family guy, you don't want to cause harm to your kids."  
- Non-smoker, aged 21-29, Male*

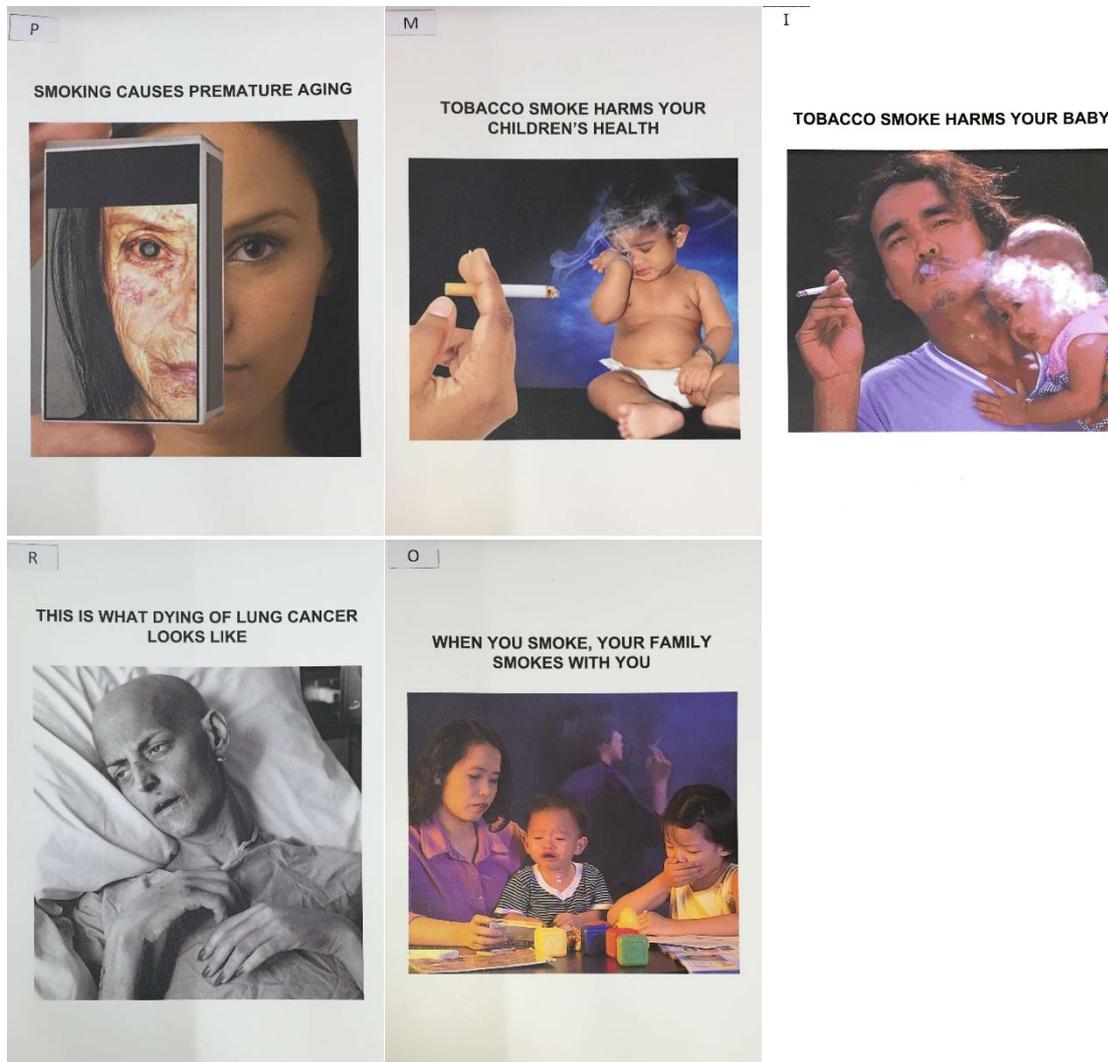
H

**SMOKING CAUSES PREMATURE BIRTH**



**Labels P, M, I, R and O were 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup> and 12<sup>th</sup> most effective respectively (based on Table A)**

Following behind was Label P, M, I, R and O.



**Elaboration on Label P**

Label P was seen as a new way of positioning deterrence messages as compared to diseases and cancers. However, this image seemed exaggerated and less relatable to smokers and non-smokers. claimed to know smokers who had smoked for decades, and felt they did not know anyone who resembled the individual in the image. Some were confused as to whether the box was an X-Ray machine, showing the inner dermis of the skin, or just a box of cigarettes for metaphorical emphasis. Smokers and non-smokers felt that the image was trying to portray damaged eyes from smoking, or skin cancer, both of which were not connected with the actual message of aging. Suggestions for improvements included to reduce the exaggeration by portraying slight aging – more subtle effects could more easily be picked up by people who cared more about their appearance. Another suggestion included to depict a women taking a selfie, with her appearance being older than her real age.

*"eye cancer, only show eye...skin cancer looks like that."  
- Cigarette smoker, aged 50-69, Female*

Male smokers, aged 30 to 69 years, were particularly not affected by Label P. Some felt that Label P was speaking more to women or aging is a natural progression in life, while some felt that the exaggeration made the label unconvincing. These smokers also felt the disconnect between smoking and skin problem.

*"For smoking, I've never heard of skin cancer before."  
- Cigarette smoker, aged 50-69, Male*

*"Ageing is a natural process."  
- Cigarette smoker, aged 30-49, Male*

### **Elaboration on Label M**

Label M showed second-hand smoke causing distress and harm to an innocent baby. This label, while similar to Label I and Label O, was more successful in triggering the emotions of smokers and non-smokers. Reasons provided included the focus on the discomfort that the baby was experiencing, the portrayal of an able-bodied, irresponsible father (Label I) or the cared-for environment with the presence of a mother (Label O). Some felt that the harm was not expressed optimally. To improve, smokers and non-smokers thought Label M could depict the baby in greater discomfort or distress, for example, by portraying crying or choking with mucus flowing out of his nose.

*"The baby looks affected like 'gao wei' (uncomfortable)...smoke is going into his eye and she's rubbing it off....like I said, you don't smoke in front of your baby."  
- Cigarette smoker, aged 18-20, Female*

*"Don't smoke with your kids because second person will be affected more than the smokers...second hand smoke is more dangerous"  
- Cigarette smoker, aged 50-69, Female*

*"Oh, it doesn't tell me it would affect your family. It just says - If I'm smoking, I should be responsible, something like that."  
- Non-smoker, aged 21-29, Male*

Male smokers, aged 21 to 49 years, appreciated less of Label M as such scene of smoking in front of children were uncommon, especially with restrictions on smoking areas.

*"It's irrelevant to our society...Singaporeans are conscious people. We're at least conscious about our surrounding... we're not allowed to smoke in corridors..."  
- Cigarette smoker, aged 30-49, Male*

### **Elaboration on Label I**

Label I showed a baby breathing in second-hand smoke. While this image clearly depicts the harm from second-hand smoke, smokers and non-smokers felt that the baby was not as affected, compared to Label M. Similar to other Labels depicting the harm from second-hand smoke, Label I was also less relatable because such a scene is not commonly seen in Singapore.

*"When we smoke, we won't carry our own kids."  
- Cigarette smoker, aged 50-69, Male*

Females, aged 50-69 years, felt more affection and care for family members, hence Label I connected well with them. They could empathise the harm that was exposed to the baby or any innocent members of a family. Male non-smokers in this age group also related well with Label I as they see such behaviour as detrimental to the child's well-being and a form of setting a bad example.

*"They are close to you, so if you smoke inside the house. They become passive smoker...cause' you love your loved ones, to live long what...you need to take care of your family. Kill yourself, kill your family also"  
- Non-smoker, aged 50-69, Female*

*"The risk is higher with second hand smoke...dangerous...because the smoke is going directly to the baby"  
- Cigarette smoker, aged 50-69, Female*

*"I've seen the whole family smoking, the parents are smoking, and behind them, the children are smoking as well. So when they bring a baby in, the baby would smoke too."  
- Non-smoker, aged 50-69, Male*

### **Elaboration on Label R**

For some. Label R was thought to depict the look of someone dying from lung cancer. It appealed to smokers and non-smokers who had encountered friends or family members who died from lung cancer. However, to most who had not seen a dying patient suffering from lung cancer, this label seemed irrelevant. Many commented that the image was capable of representing any kind of death – malnutrition, HIV, AIDS, etc. Some commented that the image was not realistic because their impression of a patient suffering from lung cancer included water retention and signs of bloatedness. From the image, it was also hard to see the relation with smoking.

However, female smokers, aged 50-69 years, were able to relate more to Label R due to real-life encounters with patients with lung cancer. They may have witnessed the weakened state of the body of someone they knew, who has contracted lung cancer.

*"I know someone who doesn't smoke, doesn't drink, she still died of lung cancer at 34."  
- Cigarette smoker, aged 50-69, Female*

### **Elaboration on Label O**

Label O showed the family in the foreground suffering from presumably the second-hand smoke from a father in the background. This was not impactful enough as the cause of the child's crying was not obvious. While the little girl was covering her nose, the children in the image appeared to be less affected due to the presence of a mother figure, as compared to Label I or M. Some smokers and non-smokers felt that the reception of second-hand smoke was not in as close proximity as Label M or I, though some also felt that Label O depicted the most realistic second-hand smoke scenario.

*"Then don't carry to smoke, in the same room never mind."  
- Non-smoker, aged 21-29, Female*

*"Because it looks more realistic out of all of them (I,O,M)"*  
- Cigarette smoker, aged 18-20, Female

## Evaluation of the 18 pictures in terms of informing on the dangers of smoking

### Images E, C, J, D, F and N were top images for informing on the dangers of smoking (based on Table B)

The top 6 images that best informed smokers and non-smokers about the dangers of smoking were Images E, C, J, D, F and N. They were first drawn to these visually disturbing images.

These images were also those spontaneously mentioned as health concerns associated with smoking. These dangers were mainly specific cancers such as throat cancer, oral cancer, lung cancer and stillbirth.



Although many smokers and non-smokers mentioned the non-association of gangrene with smoking, it was still deemed 'gory' and 'disgusting' visually. Gangrene was highly associated with diabetes, and this disease was vastly known among the older age group (50 to 69 years old) as common education in hospital or clinics where they had visited for their medical check-ups. Older smokers and non-smokers may also

have had personal encounters with patients suffering from gangrene. Younger participants, on the other hand, were not very aware of this disease.

*"I think there are people who don't understand gangrene...how is it connected to smoking.."*  
- Non-smoker, aged 50-69, Male

*"My friend's father also got gangrene. The leg."*  
- Non-smoker, aged 50-69, Female

*"Don't know much...it's like an infection...need to cut your leg... I think I knew it from when I watched documentaries. When animals attack someone and then they get gangrene. So it's a bacterial infection and a serious infection that can kill you..."*  
- Cigarette smoker, aged 18-20, Female

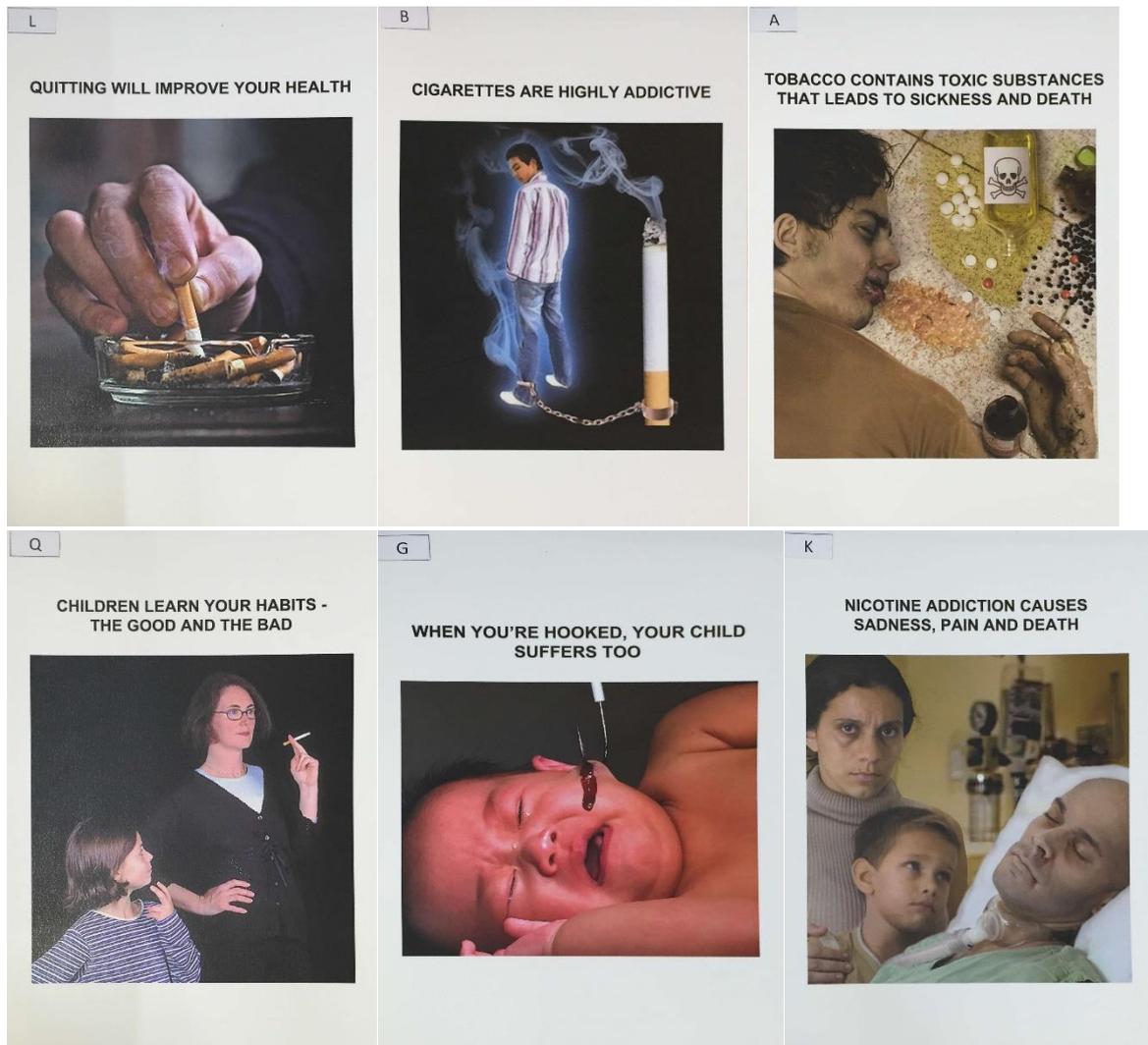
### **Images L, B, A, Q, G and K were poor images for informing on the dangers of smoking (based on Table B)**

As with the findings on least effective labels, Images L, B, A, Q, G and K emerged as the least informative in terms of informing on the dangers of smoking. They were less effective in communicating any salient negative consequences of smoking. These images did not trigger the emotional disruption or connection to smoking, and were also not deemed as gory or sufficiently impactful. These were less of a cause for concern or not seen as barriers towards smoking. Death and addiction were seen as less detrimental as compared to diseases or harm inflicted on others.

*"It would never impact us smokers, I think. Because of the addiction, I have in nicotine in our body. We would just overlook everything and take what's inside."*  
- Cigarette smoker, aged 21-29, Female

*"Does only nicotine causes pain and death? Lots of other things causes that as well."*  
- Cigarette smoker, aged 30-49, Female

*"Just want to say that I don't think the picture is very well done. The guy don't look addicted enough, it's just a chain."*  
- Non-smoker, aged 21-29, Female



**Images H, I, M, R, P and O were average-rated images for informing the dangers of smoking (based on Table B)**

Overall, these images generated only average responses. They were not visually disturbing with representation of gory and disgusting visuals. They were informative but not as easily understood. Images depicting second-hand smoke served as reminders to smokers to be more conscious of the people around them. Potential death, ageing or risk of having premature birth were less detrimental than diseases-related detriments, but could cause harm to a certain extent.

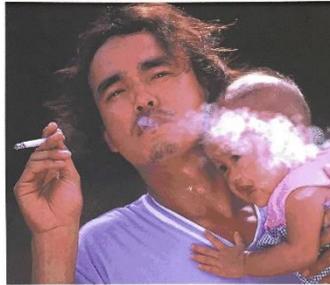
H

**SMOKING CAUSES PREMATURE BIRTH**



I

**TOBACCO SMOKE HARMS YOUR BABY**



M

**TOBACCO SMOKE HARMS YOUR CHILDREN'S HEALTH**



R

**THIS IS WHAT DYING OF LUNG CANCER LOOKS LIKE**



P

**SMOKING CAUSES PREMATURE AGING**



O

**WHEN YOU SMOKE, YOUR FAMILY SMOKES WITH YOU**



**Table 1.0 – Summary by profile (Image informs on the dangers of smoking)**

According to mean score tabulation, Image E, C and J were the top 3 labels that informs well on the dangers of smoking. Image D was able to communicate the dangers of smoking to most profile groups, primarily the females.

Profile	Age Group		Male			Female			Overall		
			Top 1	Top 2	Top 3	Top 1	Top 2	Top 3	Top 1	Top 2	Top 3
Non-smokers	Aged 18-20	Label	D	J	N	J	E	N	D	J	C
		Mean score	4.11	4.11	4.11	4.70	4.70	4.60			
	Aged 21-29	Label	E	F	D	C	D	J			
		Mean score	4.88	4.88	4.88	4.40	4.30	4.30			
	Aged 30-49	Label	C	D	J	C	N	J/E			
		Mean score	4.38	4.38	4.38	4.80	4.60	4.50			
Aged 50-69	Label	D	C	E	D	J	M				
	Mean score	5.00	4.90	4.90	4.80	4.70	4.70				
Smokers	Aged 18-20	Label	J	C	F	D	E	J/C/N/I/P	E	C	J/D
		Mean score	4.56	4.33	4.33	4.20	3.90	3.60			
	Aged 21-29	Label	J	C	E/N	D	C	E			
		Mean score	4.10	4.10	4.00	4.44	4.33	4.11			
	Aged 30-49	Label	E	F	J	E	C	J			
		Mean score	3.70	3.70	3.70	4.44	4.22	4.22			
	Aged 50-69	Label	E	D	M/O	I	E	D/M			
		Mean score	4.40	4.40	4.40	4.60	4.30	4.20			
Grand Total	Label	C	E	J	E	D	C	E	C	J	
	Mean score	4.28	4.25	4.24	4.31	4.26	4.23	4.28	4.26	4.23	

## Evaluation of the 18 pictures in convincing smokers to quit smoking

### **Most convincing images were D, C, E, J, F, H and N (Based on Table C)**

Images D, C, E, J, F, H and N were considered to be most convincing in terms of influencing smokers to quit (ranked in order of most convincing to less convincing). This finding coincided with the top labels which effectively informed smokers and non-smokers about the dangers of smoking. The fear factor that was portrayed in these images were deemed more convincing than emotional or generic images.

### **Least convincing images were B, L, A, Q, K and G (Based on Table C)**

Similarly, Images B, L, A, Q, K and G were the least convincing for smokers to quit smoking (ranked 18<sup>th</sup>, 17<sup>th</sup>, 16<sup>th</sup>, 15<sup>th</sup>, 14<sup>th</sup> and 13<sup>th</sup> respectively). These images were not compelling enough to instil any fear or discomfort and were also not visually unsettling enough to create an impact.

### **Non-smokers perceived the images more convincing than smokers**

Most non-smokers provided higher ratings compared to smokers in the same profile groups. Hence, for them, the images served as a better deterrence towards smoking initiation. Smokers, on the other hand, felt that these labels were less convincing in terms of influencing them to quit.

### **Labels served as educational information and not deterrence for smoking**

A huge majority of participants felt that the labels provided warning reminders or served as educational information, but do not deter smoking behaviour or prevent smoking initiation. Instead, about a third of participants also suggested positive messages and encouragement in campaigns.

*"I think there is a message about smoking at your own risk. I think this don't deter the smokers from continuing...don't make people think twice before they start smoking...they are already addicted to it"*  
- Non-smoker, aged 50-69, Female

*"Whatever suggestion we make people are still going to smoke."*  
- Cigarette smoker, aged 50-69, Female

*"Depends on the individuals...but think some people are more sensitive to gory images."*  
- Non-smoker, aged 21-29, Male

*"just going through my mind. Does it make sense? Is there truth to it? It has 5% effect on me"*  
- Non-smoker, aged 21-29, Female

*"I've seen some positive campaigns...it was encouraging people to quit, instead of putting measures on people to quit. It's promoting the positive points of quitting smoking, like you save more money, get a healthier life. I think peer pressure is a very good thing we can work with, like social events, social media, where youngsters can bring their friends to these events where it becomes trendy to quit."*  
- Non-smoker, aged 30-49, Female

*"There are only 2 possibilities to reduce smoking...either it's the money or it's the health...instead of all these gross pictures, they highlight that each pack, after how many years, you can buy maybe a MacBook, a TV, or a car. I think that one is more realistic..."*  
- Cigarette smoker, aged 30-49, Female

**Images R, I, P, O and M were average-rated images for convincing smokers to quit (Based on Table C)**

These images were not as fearful or compelling, but they also not ambiguous. Hence, they were considered moderately effective labels in convincing smokers to quit smoking. They played on emotional effects such as the pain to be gone through before death, the discomfort and harm for loved ones, or the risk of looking older than one's actual age or having poorer physical appearance. These images held some truth in them, but were not as convincing as the fearful images of diseases or risk of harming an unborn or newborn baby.

**Table 2.0 – Summary by profile (Image convinces smokers to quit smoking)**

According to mean score tabulations, Image D, C and E were the top 3 labels that has some convincing power in getting smokers to quit smoking. This finding was consistent across smokers, non-smokers, males and females.

Profile	Age Group		Male			Female			Overall		
			Top 1	Top 2	Top 3	Top 1	Top 2	Top 3	Top 1	Top 2	Top 3
Non-smokers	Aged 18-20	Label	K	D	E/H	N	C	J	E	D	C
		Mean score	3.89	3.44	3.33	4.40	4.30	4.30			
	Aged 21-29	Label	D	E	C/J/M/I	D	C	E			
		Mean score	3.88	3.75	3.63	4.10	4.00	3.90			
	Aged 30-49	Label	D	E	H	C	N	E			
		Mean score	3.38	3.25	3.00	4.40	4.40	4.30			
	Aged 50-69	Label	C	E	D/F	J	D	E			
		Mean score	4.80	4.80	4.60	4.10	4.00	3.60			
Smokers	Aged 18-20	Label	C	J	N	D	C	J/P	D	C	E
		Mean score	4.11	4.00	4.00	3.60	3.50	3.20			
	Aged 21-29	Label	C	J	D/N	D	N	G			
		Mean score	3.50	3.30	3.20	3.89	3.56	3.44			
	Aged 30-49	Label	E	C	J	E	J	C/D			
		Mean score	3.10	3.00	3.00	3.67	3.22	3.22			
	Aged 50-69	Label	D	E	F	D	H	I			
		Mean score	4.40	4.30	4.10	4.00	4.00	3.90			
Grand Total	Label	E	C	D	D	C	E	D	C	E	
	Mean score	3.68	3.64	3.62	3.80	3.69	3.66	3.71	3.67	3.67	

## Evaluation of the 18 messages in informing on the dangers of smoking

### **Messages D, E, C, J, F and H were most effective in informing on the dangers of smoking (based on Table D)**

Messages D, E, C, J, F and H informed on the dangers of smoking well. While participants were instructed to evaluate the images and messages separately, many still saw both in totality. The messages were as follows:

D – Smoking can cause stillbirth

E – Smoking causes throat cancer

C – Smoking causes oral cancer

J – Poisons in cigarettes can lead to oral cancer

F – Tobacco use leads to death from lung cancer

H – Smoking causes premature birth

These messages were concise and direct, stating the serious consequences or harm that could be caused by smoking, such as stillbirth, specific cancer types and premature birth. Some participants were not sure about the differences between stillbirth and premature birth, but the images helped them to understand the harm that will be caused.

Female participants, in general, were more affected by messages involving babies. Therefore, Message D and H were rated higher among most female groups.

*“stillbirth is premature, die inside the body...not sure”*  
- Cigarette smoker, aged 50-69, Male

*“How it affects babies...they are all like almost dying.”*  
- Non-smoker, aged 30-49, Female

### **Messages G, O, A, Q, B and L were less effective in informing on the dangers of smoking (based on Table D)**

Messages G, O, A, Q, B and L were least informative with regard to the dangers of smoking.

These messages were seen as less straightforward; participants thought they contained too much information, which was confusing. Participants felt they did not bring out the intended messages clearly.

*“Because it is just a cigarette and a child. You can also put alcohol and child. Like that it is not clear, it is not clarified properly”*  
- Non-smoker, aged 18-20, Male

### **Elaboration on Message G**

G – When you're hooked, your child suffers too

Message G was seen as ambiguous, with no clear definition on how the subject is being hooked, as well as information on how the child suffers. There was more concern from seeing the baby being hooked such as from being abused, instead of comprehending the metaphoric meaning behind the hook.

*"The baby suffers but it may not be from cigarettes....I think it's photoshopped...from far you can't really notice the hook."*

- Non-smoker, aged 30-49, Male

### **Elaboration on Message O**

O – When you smoke, your family smokes with you

Message O was deemed as less impactful. Although almost all smokers and non-smokers were aware of the harm of second-hand smoke, most were not able to identify with the message. Smokers tend to smoke outside of their homes or within allocated smoking parameters which were away from non-smokers or family members. Smokers were also generally concerned about their family members and would not put their family at risk.

*"Respect. I believe that, smoking is not like... Because my father smokes, and when he wants to smoke, he also go out of the house, to smoke. I think that it shows that he respects us."*

- Cigarette smoker, aged 21-29, Male

### **Elaboration on Message A**

A – Tobacco contains toxic substances that leads to sickness and death

Message A appeared foreign to participants because of words like 'toxic substances' used. The exact ingredients that constituted toxic was not clearly communicated. Moreover, sickness and death were seen as part and parcel of life, which could be caused by multiple causes apart from smoking.

*"I've seen people overdosed, but not on cigarettes. I've never seen people overdose on cigarettes before...everybody knows that...smoking kills."*

- Cigarette smoker, aged 21-29, Female

### **Elaboration on Message Q**

Q – Children learn your habits – the good and the bad

Message Q was seen as a generic educational campaign message. Habits could potentially refer to other vices or behaviours apart from smoking. The words "good and bad" was not forceful or defined clearly enough to emphasise the seriousness of the intended message. The message was also thought to be longer than other messages; participants thought that rewording the message to "Children learn your bad habits" would potentially be clearer and more straightforward.

*"It's a very generic sentence, the good and the bad. It's not focused on smoking."*

- Cigarette smoker, aged 30-49, Female

### **Elaboration on Message B**

B – Cigarettes are highly addictive

While Message B communicated a message that was not new to both smokers and non-smokers, it did not bring out how addiction could be bad. Participants sought more explanation as to why addiction was bad to begin with. Smoking was seen as not the only vice that was addictive. To participants, all vices, when handled irresponsibly, would lead to addiction with varying consequences. Some participants did not think the message raised any cause of alarm, as addiction did not translate to any bad consequences.

*“Like, not addiction only, but how it change you, the effect of cigarette.”*  
- Non-smoker, aged 21-29, Female

### **Elaboration on Message L**

L – Quitting will improve your health

Even though participants saw Message L as being more encouraging which they liked, it did not succeed in informing them about the dangers of smoking. The message failed to communicate the benefits of quitting and how one's health could be improved. Many participants saw this message in tandem with the image and was confused, as they portrayed differing messages – quitting was not depicted in Image L, as it looked more like the stubbing out of a fully smoked cigarette.

*“Quitting to improve your health. Everyone knows that...it just looks like someone stubbing out his cigarettes...doesn't say anything about danger.”*  
- Cigarette smoker, aged 18-20, Female

### **Messages N, I, R, K, M and P were average-rated messages (based on Table D)**

N – Smoking causes gangrene

I – Tobacco smoke harms your baby

R – This is what dying of lung cancer looks like

K – Nicotine addiction cause sadness, pain and death

M – Tobacco smoke harms your children's health

P – Smoking causes premature aging

These messages contained information or warnings about potential hazards but had more long-term impacts that do not require immediate attention (i.e. death or ageing). Gangrene was not as widely known as lung cancer or oral cancer, hence, then message alone could not bring out the danger of smoking clearly.

**Table 3.0 – Summary by profile (Message that informs on the dangers of smoking)**

According to mean score summary by profile groups, Message E, C and J informed well on the dangers of smoking – this was aligned with smokers and females. Message F and D were perceived to inform on the dangers of smoking among the male participants and non-smokers respectively.

Profile	Age Group		Male			Female			Overall		
			Top 1	Top 2	Top 3	Top 1	Top 2	Top 3	Top 1	Top 2	Top 3
Non-smokers	Aged 18-20	Label	K	C	A/E/H	J	C	E/N	C	E	D
		Mean score	4.11	4.00	4.00	4.80	4.50	4.50			
	Aged 21-29	Label	C	F	E/N/D	R	C	F/E/D			
		Mean score	4.75	4.75	4.63	4.20	4.00	4.00			
	Aged 30-49	Label	C	E	F/D/N/J	C	E	D			
		Mean score	4.38	4.38	4.25	4.70	4.60	4.50			
Aged 50-69	Label	E	C	D/F	C	E	D/J				
	Mean score	4.80	4.70	4.70	4.70	4.70	4.60				
Smokers	Aged 18-20	Label	C	F	E/D	E	D	J	E	C	J
		Mean score	4.33	4.11	4.00	3.90	3.90	3.90			
	Aged 21-29	Label	C	E	J/F	C	E	J/N			
		Mean score	3.90	3.90	3.90	4.33	4.22	4.22			
	Aged 30-49	Label	C	J	E	E	J	C			
		Mean score	3.60	3.60	3.50	4.44	4.11	4.00			
Aged 50-69	Label	E	D	C	D	I	K				
	Mean score	4.30	4.20	4.10	4.30	4.30	4.10				
Grand Total		Label	C	E	F	E	C	J	E	C	J
		Mean score	4.22	4.19	4.08	4.28	4.22	4.18	4.24	4.22	4.12

## Evaluation of the 18 messages in the ease of understanding them

### **Messages E, C, J, I, D and M were the easiest to understand (based on Table E)**

E – Smoking causes throat cancer

C – Smoking causes oral cancer

J – Poisons in cigarettes can lead to oral cancer

I – Tobacco smoke harms your baby

D – Smoking can cause stillbirth

M – Tobacco smoke harms your children's health

Message E, C, J and D were easiest to comprehend as it was in line with the participants' current knowledge of the consequences of smoking. Overall, these were common messages that were informative about the dangers related to smoking. Participants also liked that they were short and straightforward.

Message I and M contained facts about the harm tobacco smoke caused to passive smokers. Smokers and non-smokers were aware of the concept of second-hand smoke and its harmful effects. They were also well aware that babies and children were more susceptible to the harms of second-hand smoke as their immune systems are weaker than adults.

### **Elaboration on Message I**

I – Tobacco smoke harms your baby

Male smokers, aged 30-49 years, did not agree with Message I because they could not relate to babies being in close proximity to smokers.

*"I might have seen people who carried a baby and smoke. But usually, the more conscious, the more civilised ones don't. Mind you, no disrespect. When we go to Cambodia, you would see that kind of thing, third world countries. Singapore, you won't see."*  
- Cigarette smoker, aged 30-49, Male

### **Elaboration on Message M**

M – Tobacco smoke harms your children's health

Female non-smokers, aged 30-49 years, felt that Message M and its image was a bit misleading in creating the impression that parents do not care about their child – they choose smoking over them.

*"It is giving a wrong impression with a child that smoking is ok, even when the child is crying, the parents still don't care."*

- Non-smoker, aged 30-49, Female

Male smokers, aged 18 to 20 years, also felt that the message was not clearly brought out to them. Perhaps, because their main concern revolved around diseases and death. Hence, concerns for children and babies were not as close to their hearts than the others. Based on worksheet tabulations, 'smoking causes diseases' and 'smoking

causes addiction' were rated with a mean score of 4.33 (out of a 5 point scale, where 1 being not at all relevant and 5 being extremely relevant), while 'Smoking harms your child' only garnered a mean score of 3.88.

### **Messages B, K, P, L, G and A were deemed difficult to understand (based on Table E)**

B – Cigarettes are highly addictive

K – Nicotine addiction causes sickness, pain and death

P – Smoking causes premature aging

L – Quitting will improve your health

G – When you're hooked, your child suffers too

A – Tobacco contains toxic substances that leads to sickness and death

Messages B, K, P, L, G and A were deemed more difficult to understand. As earlier discussed, Message B, L, G and A were weak in communicating the dangers of smoking – this was likely due to the ambiguity of the messages. Messages that were positioned as neutral or indirect, were seen as less easy to understand. Messages that contradicted with their corresponding images were also seen as more difficult to understand. Message P and K received mixed responses as the message was not seen as congruent and relatable for all profile groups.

### **Elaboration on Message B**

B – Cigarettes are highly addictive

Image B showed a healthy, young male chained to a cigarette, but the harmful effects of cigarette addiction was not brought out.

*"The guy still look good...stylo milo like that...looks no danger..looks good smoking...tough, strong..."*  
- Cigarette smoker, aged 50-69, Male

### **Elaboration on Message K**

K – Nicotine addiction causes sickness, pain and death

Participants felt Message K was difficult to understand, as they felt that not everyone completely understood what nicotine was. Many know nicotine as a component in cigarettes, but they may not be sure about what the exact substance is, and the harm it could potentially cause. Sickness, pain and death were perceived to be consequential of many other variables, some as ordinary as stress. This message was not clearly understood because its attribution to smoking behaviour was not strong enough.

*"Young adults, teens may not even know the term 'nicotine' ....people may associate with nicotine patch..."*  
- Non-smoker, aged 30-49, Male

### **Elaboration on Message P**

P – Smoking causes premature aging

Message P was difficult to understand as its accompanying image was perceived as being too exaggerated. Participants thought it overly depicted 'premature aging', to the extent of it looking like skin cancer or skin disease. For some, pre-mature aging was something participants understood and witnessed in their friends or family members. However, the extent of premature aging was not as bad as shown in the image. Believability was compromised when the image was thought to be excessively digitally edited.

*"Can afford to smoke, can afford to do facial"*  
- Cigarette smoker, aged 50-69, Female

Non-smokers, aged 21 to 29 years, expressed greater understanding towards the Message P. They were concerned about self-image and felt that in order to avoid premature aging, prevention should start early.

*"Image...everybody wants to be presentable...not aged prematurely."*  
- Non-smoker, aged 21-29, Male

*"concern with premature ageing...to prevent lah... we are the 20s group right so 20s must start prevention"*  
- Non-smoker, aged 21-29, Female

### **Elaboration on Message L**

L – Quitting will improve your health

Participants felt that this statement was too generic. The information was not new or telling; specific health benefits were not mentioned. The message also contradicted with the image which was interpreted as stubbing out after smoking.

### **Elaboration on Message G**

G – When you're hooked, your child suffers too

Message G could be a general statement used for other vices; the suffering of the child due to smoking was not clearly explained.

### **Elaboration on Message A**

A – Tobacco contains toxic substances that leads to sickness and death

Message A spoke about tobacco but its image showed a scene interpreted as a suicide or drug abuse, which confused participants when they read the message. It was deemed difficult to understand because of the ignorance towards the exact toxic content. The entire sentence was too wordy and not to-the-point. While tobacco

could lead to sickness and death, there were many other possible causes of sickness and death.

Furthermore, female smokers, aged 21 to 29 years, felt that the message communicated nothing new.

*"I think this is a repeated message everybody knows."*  
- Cigarette smoker, aged 21-29, Female

*"Basically the shorter it is, the easier. Like the foot. Smoking causes gangrene, fine, I would read. Naturally, if I see two lines, I can't be bothered to read."*  
- Cigarette smoker, aged 30-49, Male

### **Message F, H, R, O, Q and N were average-rated messages (based on Table E)**

F – Tobacco-use leads to death from lung cancer

H – Smoking causes premature birth

R – This is what dying of lung cancer looked like

O – When you smoke, your family smokes with you

Q – Children learn your habits – the good and the bad

N – Smoking causes gangrene

These messages were average-rated as they failed to deliver the intended message as clearly as seen in the other images. For example, Image R was commonly described as a patient suffering from HIV, while Image F was described as an autopsy from any cause of death. Premature birth was argued to be caused by many factors, with smoking as only one of the many causes. Message O was not as straightforward as Message I and M, although all 3 messages were trying to bring out the harm from second-hand smoke. Message Q was deemed indirect, suggestion to amend it to 'children learn from your bad habits'.

Gangrene (Message N) was not known to all participants and hence, there was difficulty in understanding it as a consequence of smoking.

**Table 4.0 – Summary by profile (Message that is easy to understand)**

According to mean score summary by profile revealed that Message C, E and J were the easiest to understand. Message I was also deemed easy to understand, particularly by the non-smokers while males felt that Message F was also easy to understand.

Profile	Age Group		Male			Female			Overall		
			Top 1	Top 2	Top 3	Top 1	Top 2	Top 3	Top 1	Top 2	Top 3
Non-smokers	Aged 18-20	Label	Q	M	P	M	P	E/R/F	E	C	I
		Mean score	4.44	4.22	4.22	4.70	4.70	4.70			
	Aged 21-29	Label	E	C	D	E	I	Q			
		Mean score	4.75	4.75	4.75	4.40	4.40	4.40			
	Aged 30-49	Label	C	E	J/D	N	C	E/D/P			
		Mean score	4.50	4.38	4.25	4.70	4.60	4.50			
	Aged 50-69	Label	C	E	D	M	E	I/N			
		Mean score	4.90	4.80	4.70	4.60	4.50	4.50			
Smokers	Aged 18-20	Label	C	J	F	J	O	C/M	J	E	C
		Mean score	4.44	4.44	4.33	4.10	4.10	4.00			
	Aged 21-29	Label	I	E	J/C/M/G	L	I	J/H			
		Mean score	4.30	4.10	4.00	4.44	4.33	4.33			
	Aged 30-49	Label	J	C	E	J	E	N			
		Mean score	3.80	3.80	3.70	4.33	4.22	4.22			
	Aged 50-69	Label	I	C	E	H	M	I			
		Mean score	4.40	4.40	4.30	4.60	4.50	4.40			
Grand Total	Label	C	E	F/J	E	I	J	C	E	J	
	Mean score	4.35	4.29	4.12	4.32	4.28	4.26	4.31	4.29	4.19	

Label I was categorised into a theme that was different from that of the top labels, hence able to reach out to a different profile of audience; this should be considered as one of the labels to be used for prototype testing.

## Evaluation of messages or information that are new or different

The messages alone could not convince smokers to change their smoking behaviours; other programmes or campaigns would be necessary to bring about such a change. Campaigns such as I Quit were commended by some participants. Other suggested programmes included showing 'smoking is not cool', using celebrities or influential figures to share such messages. There was also suggestion to educate smokers on what to do to quit smoking; giving out nicotine patches could be another way to introduce smokers to try out nicotine patches. Nicotine patches were not perceived as a cheap product, hence free trial could be a good way to introduce smokers to nicotine patches and encouraging them to quit.

Most of the information was not deemed new or different. However, there was a handful who felt that gangrene was a disease that they were not too familiar with, especially among the younger participants. They were puzzled with a disease on the foot, which is physically located away from the mouth, which is the first point of contact with cigarettes. The older participants knew about gangrene because it was a common cause of diabetes and was commonly educated in clinics or hospitals.

*"Why is it that the gangrene image shows the toe shrinking?"*  
- Cigarette smoker, aged 18-20, Male

*"the picture (of gangrene) is not new, but we don't know what it is."*  
- Non-smoker, aged 21-29, Female

*"I don't know the leg will start rotting too if I smoke."*  
- Cigarette smoker, aged 21-29, Male

Some images were deemed new, such as Image P – aesthetics and Image F – dying from smoking. Representations of diseases were commonly seen on cigarette packs in Singapore or overseas. Many women and some younger men were concerned about aging or self-image, and how smoking could cause deteriorations to their appearance. Dying, on the other hand, also triggered the scare factor among participants. Message O (when you smoke, your family smokes with you), I (tobacco smoke harms your baby) and M (tobacco smoke harms your children's health) were also seen as different as they triggered the emotional connection with their families. While all participants were aware of the harm caused by second-hand smoke, these messages served as a reminder to them to be mindful about people living together or around them. This positioning of messages made smokers think about others instead of being concerned about themselves.

*"Sometimes. It's not because it's new, but rather, you mindlessly go about your day without thinking about it, it's only when you see the message, then you're reminded of it."*  
- Non-smoker, aged 30-49, Female

*"I can see a straight line during the bypass. So if you open up..(Describing about Label F)."*  
- Non-smoker, aged 50-69, Male

*"Tobacco smoke contains toxic substance, sickness and death...never seen the image before"*  
- Non-smoker, aged 21-29, Male

*"cutting open kind of image is new."*

- Non-smoker, aged 21-29, Female

*"For me actually I don't really know that cigarettes will actually cause people getting old."*  
 - Non-smoker, aged 50-69, Female

*"because it's facial...burnt victim...most probably...I never knew about things like this...don't look like it's because of smoking...all people smoking look pretty"*  
 - Cigarette smoker, aged 50-69, Female

**Table 5.0 – Summary by profile (Message that is new to me)**

While mean score summary revealed that information were generally known to participants, Message P (smoking causes premature ageing), Message D (smoking can cause still birth) and Message Q (children learn your habits – the good and the bad) were perceived newer than other messages. Males and non-smokers were less aware of Message G (when you are hooked, your child suffers too), while smokers and females were less aware of Message A (tobacco contains toxic substances that leads to sickness and death). Message N (gangrene) was newer to non-smokers than other profile groups.

Profile	Age Group		Male			Female			Overall		
			Top 1	Top 2	Top 3	Top 1	Top 2	Top 3	Top 1	Top 2	Top 3
Non-smokers	Aged 18-20	Label	D	G	Q	N	H	R/P	G	D	N
		Mean score	2.78	2.78	2.67	3.60	2.40	2.20			
	Aged 21-29	Label	P	G	K	H	D	G			
		Mean score	2.88	2.75	2.75	2.80	2.70	2.60			
	Aged 30-49	Label	G	D	P/L	Q	H	A			
		Mean score	3.13	2.38	2.38	2.90	2.80	2.80			
Aged 50-69	Label	N	G	D/R	P	B	M				
	Mean score	4.00	3.80	3.80	3.20	3.20	3.00				
Smokers	Aged 18-20	Label	D	A	B	D	Q	A/P	P	A	D
		Mean score	3.33	3.33	3.22	2.20	2.20	2.10			
	Aged 21-29	Label	P	Q	R	D	K	P/A/N			
		Mean score	3.50	3.40	3.40	2.56	2.33	2.22			
	Aged 30-49	Label	H	I	D/P/F/Q	A	I	D/F/Q/O/B			
		Mean score	3.00	2.80	2.60	2.33	2.22	2.22			
Aged 50-69	Label	G	P	H	P	A	N				
	Mean score	3.50	3.20	3.20	3.20	3.20	3.00				
Grand Total	Label	P	G	D	P	D	A	P	D	Q	
	Mean score	2.86	2.82	2.79	2.50	2.46	2.43	2.68	2.63	2.54	

Label P fell into an unique theme on its own, its differentiating approach connected with participants, hence, it should be considered as one of the GHWL to be taken forward for prototype testing.

## Reaction to the 8 different themes

### Labels fit with each theme

Most participants felt that the labels fit each respective theme, although there were a handful of participants who suggested some alternative groupings. Participants referred to images more than the accompanying messages when determining the fit for each theme.

Some participants suggested to group labels with babies and families together, as 'child' to them were seen as 'loved ones'.

*"The second-hand impacts your loved ones and harms your child. All of them have children inside, so kind of the same."*

- Cigarette smoker, aged 18-20, Female

There were also suggestions to classify label G under addiction since the content indicated 'being hooked' to a bad habit.

*"If you say hook, then that one goes to addiction, if you feel its hook"*

- Non-smoker, aged 50-69, Female

Similarly, it was suggested that Label A contained the message of addiction, hence, the result of passing out.

*"Looks more like addiction to me."*

- Non-smoker, aged 30-49, Female

Several participants also interpreted that since Label J was showing a disease (oral cancer) it should be grouped together with labels under "Smoking causes diseases".

*"I wouldn't think of poison. I would think of disease."*

- Cigarette smoker, aged 18-20, Female

*"I think you can put (Label J) under disease. Because doesn't show poison.."*

- Non-smoker, aged 21-29, Female

*"The teeth one (Label J) can be moved to 'causes disease'..."*

- Non-smoker, aged 30-49, Female

### Relevance of each theme to different profile groups (based on Table G)

"Smoking causes diseases", "Second-hand smoke impacts your loved ones" and "Smoking harms your child" resonated most with participants across most profile groups.

### Elaboration about "smoking causes diseases"

All profile groups, except female smokers, aged 50 to 69 years, could relate well with smoking and diseases as they were educated from the immense campaign and educational programmes on media about diseases associated with smoking. Diseases could prolong suffering which could be painful and burdensome.

*"We understand that everybody will die. But this type of disease would die faster prematurely. At the end of the day, your passing might not be an easy one. I mean, you probably want to die in your sleep. Maybe if you have lung cancer, you have to go through chemo and die....suffering."*  
- Non-smoker, aged 21-29, Male

Female smokers, aged 50 to 69 years, could relate to diseases but were more concerned about their loved ones and children who could potentially be more susceptible to the harmful effects of second-hand smoke.

*"Because they are not smokers, yet they got affected more than the smokers, so it is very unfair to them."*  
- Cigarette smoker, aged 50-69, Female

Disease-related detriments were deemed most effective on cigarette packaging, but may not be a very relevant theme to some non-smokers who had other more relevant concerns such as their loved ones.

*"Second-hand smoke is more toxic. You wouldn't want your loved ones to blame you for them getting lung cancer. That's something you wouldn't want to take responsibility for."*  
- Non-smoker, aged 30-49, Male

### **Elaboration about "Second-hand smoke impacts your loved ones"**

"Second-hand smoke impacts your loved ones" was more relevant among non-smokers than smokers. They could comprehend being affected by second-hand smoke and understood the detrimental harm it could cause. "Loved ones" were of utmost concern to most smokers and non-smokers; smokers placed their loved ones before themselves and would try their best to protect them from harm.

*"I think because this age group of people, all parents, maybe the perception towards family is much more stronger. They need their loved ones....I think a lot of people because loved by people then they will start to change."*  
- Non-smoker, aged 50-69, Male

*"Second hand smoke is more harmful."*  
- Cigarette smoker, aged 50-69, Female

*"You don't want your loved ones to suffer. It affects you also if they get sick. If it's your child, you have the pain."*  
- Cigarette smoker, aged 18-20, Female

### **Elaboration about "smoking harms your child"**

Children were seen as defenceless and vulnerable to external harm. Many smokers and non-smokers were concerned about second-hand smoke or the bad examples that children may pick up from adults' vices.

Non-smokers aged 21 to 29 years could strongly relate to this theme, as most were mindful about setting up a family of their own in the future, and they related to the harmful effects that their future child might suffer from.

*"in the future, when you get married, you don't want your child to go through what you are seeing outside - parents smoking. If you know it's bad for a child to smoke, then you should not smoke in front of a child to form that bad impression.."*  
- Non-smoker, aged 21-29, Female

### **“Smoking causes addiction” was relevant among younger smokers**

This theme appeared most relevant among male smokers, aged 18 to 20 years as they found it hard to quit smoking, despite making attempts.

*“all smokers are relevant...now considered as addicted to smoking...it's tough to quit...the habit of smoking...”*

- Cigarette smoker, aged 18-20, Male

### **Other less relevant themes tested**

“Smoking causes death” was most relevant among female non-smokers, aged 18 to 20 years as they felt dying from smoking was not worthwhile or could be avoided.

*“Don't want to die like that.”*

- Non-smoker, aged 18-20, Female

“Smoking causes aging” was most relevant among female non-smokers, aged 21 to 29 years, as they felt that prevention starts young and they do not want to look old.

*“Relates to the face...appearance”*

- Non-smoker, aged 21-29, Female

In comparison, this theme did not resonate too well among the 50 to 69 year-olds as they were in a life stage when appearance was not a priority. Instead, their loved ones and health mattered most. Moreover, the image depicted in Label P was exaggerated and they personally have not witnessed anyone in such aged condition.

*“maybe for girls, guys don't bother (aging)”*

- Cigarette smoker, aged 50-69, Male

*“I suppose nowadays they can go for this facial thing...so everything cover up...I feel that this picture is overdone. Not realistic, too exaggerated, people may not think it will happen”*

- Non-smoker, aged 50-69, Female

“Tobacco contains poisons” was the least resonating theme of all, perhaps attributed to the less effective or informative label (Label A) linked to it. Many do not correlate Label J with ‘poison’, hence diminishing the relevance of the theme further.

Male non-smokers, aged 21 to 29 years related more to tobacco containing poisons as they understood the fact that tobacco is harmful and damaging to oneself.

*“its like tobacco contains poison but other vices also have their own form of poison that damages the body so I can link to it.”*

- Non-smoker, Aged 21-29, Male

“Smoking cessation” was relevant to female non-smokers, aged 50 to 69 years because they cared about their loved ones who smoked and hoped that they could quit for the betterment of their health.

*“thinking about your loved ones. So you hope that they can quit...they definitely can quit if they want...our health is more important”*

- Non-smoker, aged 50-69, Female

## **Other suggestions to deter smoking initiation (for non-smokers) or reduce smoking consumption / quit smoking (for smokers)**

### **General suggestions to GHWLS**

As images tested were being used in other countries, the characters used in the images were not seen as relevant to the local context. Participants tend to be literal when commenting on images – they preferred Asian characters and sought adaptations of contexts/ settings to demonstrate closer parity to Singapore/ Singaporeans' lives.

Images that were realistic and relatable resonated well with the participants. While graphical and repulsive images created the sense of fear needed in a warning, care must be taken to ensure that the illustrations did not appear to be overly enhanced/ exaggerated.

Incorporating a mixture of labels that are both encouraging and deterring was also frequently suggested. Encouraging labels included motivational quotes or testimonials of successful I Quit champions (with images), while deterring labels were described as those showing the harmful effects of various smoking-related diseases.

Participants also suggested including rhetorical questions such as “did you know?” to explain facts or “does your girlfriend like that you smoke?” to capture attention, or shock-inducing content such as “this pack contains rat poison”.

Some participants further proposed to include statistics to increase the credibility of generic claims and causes attributed to smoking.

There were also some who felt that GHWLS should not be restricted only to cigarette packs. Images of stillbirths and premature births in hospitals or gynaecology clinics could potentially elevate the consciousness of pregnant women towards the detriments of smoking or being subjected to second-hand smoke.

A couple of participants were in favour of simplified packing, keeping cigarette packs plain and unattractive with no images, to attract less attention or reduce curiosity. With the lack of marketing stimulation or fancy colours, it may reduce the appeal of cigarette packs and hence lead to a reduction in smoking.

### **Suggestions for other relevant themes**

Financial themes were relevant among most profile groups, except those aged 50 to 69 years, for whom family and health were more important. Some suggestions included amending Label L to “Quitting will improve your wealth”, and illustrating a rolled up dollar note in a cigarette shape, being burnt. There were also suggestions to compare of the cost of a pack of cigarettes to a week's worth of pocket money for a child or savings for a trip overseas. Costly medical expenses as a result of smoking-related diseases was also relevant.

Other relevant themes suggested included self-image; smokers and non-smokers were concerned about strong cigarette smell on their clothes, or bad breath ruining first impressions at social settings.

Social themes such as peer pressure were also a theme mentioned in this study. Smokers smoked because of their social circle and influence of smoking initiation were highly interlaced with peer pressure. Having campaigns of depicting 'smoking is not cool' was suggested.

Aesthetic themes were new to participants. Both smokers and non-smokers were conscious about self-image and about being socially accepted. Detrimental effects of smoking on external appearance, such as the darkening of the lips, dry skin, dry eyes, wrinkles, yellow nails and teeth could potentially encourage a reduction in smoking consumption or prevent smoking initiation.

### **More encouragement and support**

Encouraging campaigns to depict that "smoking is not cool", education in school, family support, encouragement from family and friends were seen as potential ways to help smokers reduce smoking, and to educate non-smokers on the harms of smoking.

Smokers hoped to receive advice on what they could do to quit smoking. Suggestions included promoting or encouraging replacements such as nicotine patches and gum.

### **Stronger enforcement in Singapore**

There were suggestions to ban cigarettes in Singapore, drawing equivalence to how chewing gum is prohibited.

There were also suggestions to increase the prices of cigarettes. While prices of cigarette would not deter smoking, it would help smokers reduce cigarette consumption. However, some participants recounted that hikes in prices could result in crime, or switching to contraband cigarettes.

Other suggestions included raising the minimum legal age for smoking, as well as the limiting of the sales of cigarettes by time and locations.

## Conclusion

### **Perception towards smoking**

Both smokers and non-smokers clearly recognise the harms associated with smoking, such as negative implications on health, financial burden, deterioration of physical appearance, second-hand smoke, and addiction. Financial strain was the top concern amongst smokers while second-hand smoke was the main concern amongst current non-smokers.

### **High recall for GHWLS**

Both current smokers and non-smokers were able to spontaneously recall and vividly describe GHWLS as an element of tobacco packaging. “Babies”, “lungs”, “eye”, “foot”, “cancer” were common descriptions of the labels.

Non-smokers came to be aware of these images having noticed their friends or family members' cigarette packs. Some learnt about these images from cigarette packs placed in convenience stores or in coffee shops.

However, both smokers and non-smokers also admittedly agree that these labels were not key influence on their smoking decision. Self-will or strong personal reason (e.g. for betterment of health) was more of the driver of their smoking behaviour. Current smokers claimed to ignore the labels due to de-sensitisation.

### **Evaluation of test labels**

Generally, the 18 GHWLS tested were not perceived as new or unique. Participants did not feel there were many distinct differences between the warning labels tested and other warning labels they had seen previously locally or overseas.

### **Top 6 most effective labels were C, E, J, D, N and F**

These labels were commonly referred to as gory images. The labels illustrated the organs in which smoke flowed through the respiratory system, stillbirth, death or gangrene. They encompassed the fear or scare factor and were relatable to smoking.

### **Images E, C, J, D, F and N were top images for informing on the dangers of smoking**

Images with sordid graphic representations of chronic illnesses such as oral cancer or throat cancer were deemed more impactful. The decomposed flesh, rotten body parts, pigmentation of body parts and intense pain experienced by the victim further enhanced the fear factor.

### **Images L, B, A, Q, G and K were poor images for informing on the dangers of smoking**

These images were not successful in delivering emotional reaction of sadness, fear, anger or disgust towards tobacco-use. Death and addiction were seen as less detrimental as compared to diseases or the harm inflicted on others.

### **Evaluation of messages on labels**

Mean score summary by profile groups revealed that Message E, C and J informed well on the dangers of smoking – this was aligned with smokers and females. Message F and D were perceived to inform on the dangers of smoking among the male participants and non-smokers respectively. Similarly, Message C, E and J were the easiest to understand. Message I was also deemed easy to understand, particularly by the non-smokers while males felt that Message F was also easy to understand. Label I was categorised into a theme, focusing on young children, that was different from that of the top labels, hence able to reach out to a different profile of audience; this should be considered as one of the labels to be used for prototype testing. Messages that were concise and direct in stating the serious consequences or harm that could be caused by smoking, such as stillbirth, cancer and premature birth were most effective.

### **New or different information in labels**

Most of the information was not deemed new or different; participants were aware of the harms and consequences associated with smoking. However, there were a handful who felt that gangrene was a disease that they were not too familiar with, especially among the younger participants.

Some images were deemed new, such as P – aesthetics and F – dying from smoking. Representations of diseases were commonly seen on cigarette packs in Singapore or overseas. Many women and some younger men were concerned about aging or self-image, and how smoking could cause deteriorations to their appearance. Dying, on the other hand, also triggered the scare factor among participants.

Label P fell into an unique theme on its own, its differentiating approach connected with participants, hence, it should be considered as one of the GHWL to be taken forward for prototype testing.

### **Relevant themes**

“Smoking causes diseases”, “Second-hand smoke impacts your loved ones” and “Smoking harms your child” resonated most with participants.

Diseases were seen as a long-term detriment to one's life, both from the perspective of health and finances.

Both smokers and non-smokers put the well-being of their loved ones before themselves and empathise with the vulnerability of children, who were subjected to harm effects of second-hand smoking.

Other relevant themes include finance, self-image, aesthetics and social image.

### **General suggestions to GHWLS**

Labels need to be adapted to local context.

Participants liked images that were more realistic and relatable, or images that portrayed graphic, repulsive scenarios. At the same time, these images need to avoid being overly enhanced/ exaggerated.

Incorporating a mixture of labels that are both encouraging and deterring was also frequently suggested. Use of encouraging labels or taglines were suggested.

For some, anti-smoking measures should not be limited to only health labels on cigarette packs. Images of stillbirths and premature births in hospitals or gynaecology clinics could potentially elevate the consciousness of pregnant women towards the detriments of smoking or being subjected to second-hand smoke.

### **Recommendation on GHWLS**

Before being exposed to these labels, participants could spontaneously describe the labels and were aware of health consequences associated with smoking. However, they felt that these labels do not influence their smoking decisions and behaviours. After exposing the 18 labels to them, most felt that no matter how visually disturbing the GHWLS were, they made minimal impact on their actual smoking behaviour. Minority of non-smokers agreed that these images may stimulate them to think twice before picking up smoking. As such, it is still recommended to have them as educational information.

### **Summary and action point of each label**

<b>Label</b>	<b>Summary and action points</b>
A	<ul style="list-style-type: none"> <li>▪ Ranked 17<sup>th</sup> on most effective label in communicating the dangers of smoking.</li> <li>▪ It was commonly described as 'overdose' or suicide due to the absence of cigarettes.</li> <li>▪ The idea of 'toxic' was not depicted in the image and its consequences was not strongly delivered.</li> <li>▪ Suggestions included shortening of message to 'tobacco leads to sickness and death' and injecting images of cigarettes into the image.</li> <li>▪ Do not have much effect on any profile group.</li> </ul>
B	<ul style="list-style-type: none"> <li>▪ Ranked 15<sup>th</sup> on most effective label in communicating the dangers of smoking.</li> <li>▪ The message of 'addiction' was not seriously depicted as the man still looked 'cool' and was not struggling.</li> <li>▪ Suggestions for improvements included depicting the man in a worse state, crawling and struggling on the floor or attempting to saw a more visible chain to escape.</li> <li>▪ Although this label was not very effective, it was regarded as quite appealing to female non-smokers, aged 50 – 69 who were concerned about addiction among their loved ones.</li> </ul>
C	<ul style="list-style-type: none"> <li>▪ Ranked 1<sup>st</sup> on most effective label in communicating the dangers of smoking.</li> <li>▪ Oral cancer was easily relatable with smoking.</li> <li>▪ The rotten flesh contained fear which informs the detriments related to smoking.</li> <li>▪ Participants suggested to zoom the image out a bit as the image looked like rotten flesh with some confusion on which body part it belonged to.</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Effective to all profile group, except female smokers aged 50 – 69 who were more concerned about their loved ones and children.</li> </ul>
D	<ul style="list-style-type: none"> <li>▪ Ranked 4<sup>th</sup> on most effective label in communicating the dangers of smoking.</li> <li>▪ Stillbirth received empathy from respondents, especially those who plan to have their own families in the near future or existing parents.</li> <li>▪ Some participants suggested to include a regretful, crying mother with her stillborn child.</li> <li>▪ Effective to all profile groups, except male smokers, aged 18 to 20 and aged 30 to 69, perhaps due to insensitivity to pregnancy and babies (unlike females).</li> <li>▪ Some women also expressed less empathy to this image as they currently do not have any children.</li> </ul>
E	<ul style="list-style-type: none"> <li>▪ Ranked 2<sup>nd</sup> on most effective label in communicating the dangers of smoking.</li> <li>▪ Throat cancer was easily relatable with smoking.</li> <li>▪ There were some confusion on what the red lump was, perhaps a clearer depiction could be used in actual launch.</li> <li>▪ Effective to all profile groups, except females aged 50 – 69.</li> </ul>
F	<ul style="list-style-type: none"> <li>▪ Ranked 6<sup>th</sup> on most effective label in communicating the dangers of smoking.</li> <li>▪ The depiction of death was commented by some participants as a new 'positioning' instead of common diseases depicted on cigarette packs.</li> <li>▪ Suggestions included modifying the image to express 'lung cancer' – exposing a blackened lungs.</li> <li>▪ Not effective with male non-smokers, aged 18 to 20 perhaps because of their non-smoking lifestyle and young age, death was still too distant to them.</li> </ul>
G	<ul style="list-style-type: none"> <li>▪ Ranked 16<sup>th</sup> on most effective label in communicating the dangers of smoking.</li> <li>▪ The meaning of addiction was not strongly received, instead it was perceived as abusive to children or photo-shopped which reduced the credibility of the warning label.</li> <li>▪ The hook was too small to be noticed, hence causing some confusion with the message when read in totality.</li> <li>▪ Not effective to almost all profile groups.</li> </ul>
H	<ul style="list-style-type: none"> <li>▪ Ranked 7<sup>th</sup> on most effective label in communicating the dangers of smoking.</li> <li>▪ The fragility of the baby garnered some empathy but many commented that premature birth was a common phenomenon which can be caused by many other factors, apart from smoking.</li> </ul>
I	<ul style="list-style-type: none"> <li>▪ Ranked 10<sup>th</sup> on most effective label in communicating the dangers of smoking.</li> <li>▪ The harm of second-hand smoke was widely known by most participants; while some empathised with the baby, some also felt that smokers in Singapore smoke responsibly away from young children.</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Effective with males, aged 50 to 69 and female smokers 50 – 69 years of age.</li> </ul>
J	<ul style="list-style-type: none"> <li>▪ Ranked 3<sup>rd</sup> on most effective label in communicating the dangers of smoking.</li> <li>▪ Oral cancer was easily relatable with smoking.</li> <li>▪ This image was more subtle compared to Label C which depicted a later stage of oral cancer.</li> <li>▪ More gory elements could be added to enhance the fear factor.</li> <li>▪ Effective with all profile groups, except male non-smokers aged 21 – 29 (perhaps due to non-smoking behaviour), male non-smokers aged 50 to 69 and female smokers aged 50 to 69 (putting the priority over their loved ones and children, instead of their own health).</li> </ul>
K	<ul style="list-style-type: none"> <li>▪ Ranked 14<sup>th</sup> on most effective label in communicating the dangers of smoking.</li> <li>▪ With deeper thoughts, participants could empathise with the pain that family members of dying patients had to go through, however, the pain was not shown on the faces of the women and boy.</li> <li>▪ It was suggested to inject more sad emotions.</li> <li>▪ Has hardly any effect on the different profile groups.</li> </ul>
L	<ul style="list-style-type: none"> <li>▪ Ranked as most ineffective label in communicating the dangers of smoking.</li> <li>▪ Although some participants identified this label with positive positioning and a more encouraging tone, the image does not bring out the improvement in health.</li> <li>▪ Some suggestions included showing a hand crushing a pack of cigarettes, or showing the stubbing out of a relatively unfinished cigarette.</li> <li>▪ Since cost was an area of concern, participants also suggested showing a bill rolled up like a cigarette and burning it with an accompanying message of 'quitting will improve your wealth'.</li> <li>▪ Has hardly any effect on the different profile groups.</li> </ul>
M	<ul style="list-style-type: none"> <li>▪ Ranked 9<sup>th</sup> on most effective label in communicating the dangers of smoking.</li> <li>▪ The harm of second-hand smoke was widely known by most participants. While some empathise with the baby, some also felt that smokers in Singapore smoke responsibly away from young children.</li> <li>▪ Effective on female smokers, aged 50 – 69 as they has soft spot for babies / young children.</li> </ul>
N	<ul style="list-style-type: none"> <li>▪ Ranked 5<sup>th</sup> on most effective label in communicating the dangers of smoking.</li> <li>▪ The image of a rotten foot exerted the fear factor which expressed the detriments of smoking.</li> <li>▪ However, Gangrene was not a disease common to all participants – perhaps a layman term could replace.</li> <li>▪ Has less effect on non-smokers, 21 – 29 years of age as they were not at risk with any current smoking behaviour. Older participants (aged 50 – 69) also do not strongly perceive this label as</li> </ul>

	<p>effective, perhaps due to their loved ones being a more relevant concern and diseases were beyond their control.</p>
O	<ul style="list-style-type: none"> <li>▪ Ranked 12<sup>th</sup> on most effective label in communicating the dangers of smoking.</li> <li>▪ The harm of second-hand smoke was known to participants, however, in this was not strongly depicted in the image as the smoking figure was far in the background. It was also commented that older children (non-infants) had better immunity.</li> <li>▪ Although this label was not very effective, it was regarded as quite appealing to male non-smokers, aged 21 – 29 who were concerned about families and considering about their future families.</li> </ul>
P	<ul style="list-style-type: none"> <li>▪ Ranked 8<sup>th</sup> on most effective label in communicating the dangers of smoking.</li> <li>▪ Pre-mature ageing was an important factor to most age groups, except the 50 – 69s. However, this image was deemed to be over-edited and lacked believability.</li> <li>▪ This detriment was also something different from other GHWLS seen in the market.</li> <li>▪ Suggestion included reduction of editing / exaggeration to increase believability.</li> <li>▪ Female smokers, aged 30 – 49, were most concern about their appearance, therefore this label served as a reminder to them about being subjected to premature ageing.</li> </ul>
Q	<ul style="list-style-type: none"> <li>▪ Ranked 13<sup>th</sup> on most effective label in communicating the dangers of smoking.</li> <li>▪ The message was deemed ambiguous and too generic</li> <li>▪ The image did not bring out the danger of children picking up smoking from her parent / guardian.</li> <li>▪ It was suggested to keep the message straightforward: children learn your bad habits.</li> <li>▪ It was also suggested to amend the image to the girl mimicking smoking with a pencil / stick and the women to look more related to the girl, instead of looking estranged.</li> <li>▪ Has some effect on female smokers, aged 50 – 69, as they were concerned about children picking up bad habits</li> </ul>
R	<ul style="list-style-type: none"> <li>▪ Ranked 10<sup>th</sup> on most effective label in communicating the dangers of smoking.</li> <li>▪ Participants were able to comprehend and appreciate the suffering and loneliness of dying, but they also commented that the image of dying may not be related to lung cancer. HIV was often mentioned as the illness the subject was suffering from.</li> <li>▪ This image has most effect on male non-smokers aged 18 – 20 as they could empathise with the pain and loneliness that the subject was going through.</li> </ul>

**Other suggestion to encourage smoking cessation or discourage pick-up of smoking**

More encouragement and support socially or through early education in schools were suggested. Smokers hoped to receive advice on what they could do to quit smoking. Suggestions included promoting or encouraging replacements such as nicotine patches and gum.

Stronger enforcement in Singapore was suggested - to ban cigarettes in Singapore, increase the prices of cigarettes; prices of cigarettes may not deter smoking but would help smokers reduce cigarette consumption. Other suggestions included raising the minimum age for smoking, as well as the limiting of the sales of cigarettes by time and locations.

**Table 6.0 – Summary by Profile**

Table below summarises the top 3 GHWLs by smoking status, with Labels C, E, J and D appearing in most measures. Label P was seen as being new while Label I was easy to understand. Label G was deemed new to non-smokers.

Themes	Profile	Top 1	Top 2	Top 3
The picture informs me about the dangers of smoking	Non-smokers	D	J	C
	Smokers	E	C	J   D
The picture is effective in convincing smokers to quit smoking	Non-smokers	E	D	C
	Smokers	D	C	E
The message informs me about the dangers of smoking	Non-smokers	C	E	D
	Smokers	E	C	J
The message is easy to understand	Non-smokers	E	C	I
	Smokers	J	E	C
The message is new to me	Non-smokers	G	D	N
	Smokers	P	A	D

### **6 Recommended GHWL to be taken forward for prototype-testing**

Although the top ranked labels were C, E, J, D, N and F, labels C, E and N were from the same theme (i.e. diseases) and labels C and J were similar images (i.e. oral cancer). Hence, it was recommended to exclude Label J and N to balance the images across the themes. Message I was deemed easy to understand, particularly by the non-smokers, the core target group, hence the potential for Label I to reach out to a wider mass. Label P fell into a unique theme on its own, it was perceived new and different and connected well with participants, hence, it should be considered as one of the GHWL to be taken forward for prototype testing. In conclusion, Label C, E, D, F, I and P were shortlisted for further evaluation.

## Appendix

### Appendix A – Discussion Guide

#### STUDY ON PERCEPTION TOWARDS TOBACCO PACKAGING (THEME 2) DISCUSSION GUIDE 26<sup>th</sup> June to 19<sup>th</sup> July 2015

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*Note: This discussion guide is intended as a “checklist” for the moderator. Our moderator will be driven by the research objectives and is not likely to follow the script strictly. Participants’ responses may often lead the discussion in new directions or change the order of the topics.*

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<b>1. Introduction &amp; Warmup</b>	<b>10 MIN/ 10 MIN</b>
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Thank participants for taking time to participate in focus group discussion.

Explain FGD procedures:

- Discussion will take up to 2.5 hours.
- The information collected would be reported collectively without identifying any individual. These collective results may be shared with other government agencies for planning and/ or educational purposes.
- Please note that this discussion is not meant to test your knowledge therefore there is no right or wrong answer as we may have different opinions and thoughts on the topic of discussion.
- We will be doing Audio recording for note-taking purpose. Do be assured that these recordings will only be used for research purposes only.
- Reminder to switch phone to silent mode. If there are any urgent calls that you must take, please let me know and step outside.

Introduce research objectives:

In today’s focus group, we will talk about tobacco packaging. However, before we begin, can you tell me some information about yourself?

- Name
- Marital status
- Family composition (married with/ without kids, age of kids)
- Occupation

## 2. Understand their current smoking habits

10 MIN/ 20 MIN

- Smokers: To understand their current smoking behaviour
- Non Smokers: To understand their perception towards smoking

### ASK SMOKERS:

- o How long have you been smoking?
  - o How many packs in a day / week do you smoke?
  - o Do you have immediate family or close friends who smoke?
  - o Is there someone that you usually smoke with? Who?
  - o [Validate for pre/contemplators]: Have you thought of quitting smoking?  
DO you plan to quit smoking anytime within the next 12 months?

### ASK NON-SMOKERS:

- o Have you smoked / ever thought of smoking? Why/ why not?
- o Has anyone offered you cigarettes / tobacco products before?
  - o What did the person say or do?
  - o What did you do or say in response?
  - o Why did you take it up / not take it up?
- o Do you have immediate family or close friends who smoke? Do they smoke around you? How do you feel? Have they ever asked you to smoke before? What did they say?
- o For ex-smokers,
  - o Why did you not continue to smoke / what prompted you to stop smoking?
  - o What might make you smoke?

## 3. Testing of graphic health warning labels (GHWL)

120 MIN/ 140 MIN

- To obtain their reactions towards GHWL
- To gather their perception and understanding of GHWL
- To determine the effectiveness of GHWL in terms of perceived harm, ease of understanding and motivating smokers to think about quitting
- Shortlist top 6 GHWL

**ASK ALL (5 mins):**

- What are some general health warning labels on tobacco products that you are aware of?
- How does the health warning label influence you?
  - Persuading people to reduce smoking or quit smoking?
  - Hindering people from picking up smoking?
- Does anything on the pack affect whether you read/ notice the health warning label?

**NOTE: WE WILL BE TESTING THE GHWL IN TOTALITY LIKE HOW THEY WOULD SEE IT ON THE ACTUAL CIGARETTE PACK FIRST BEFORE GOING INTO INDIVIDUAL COMPONENTS OF MESSAGE, GRAPHIC AND THEME.**

**ASK ALL:**

**A) Testing of overall GHWL (100 mins)**

**A1. GROUPING EXERCISE**

**[Place all GHWL on table for a grouping exercise in order to understand participants' perceived concerns]**

**[SHOWCARD GHWL]**

**Split the group into two teams**

**Moderator note – we want to obtain individual reactions first to the GHWL. Then the grouping exercise will help us get those spontaneous reactions on all out before we start discussing as a group. The grouping exercise should be done as a quick exercise – majority rules exercise in the group. When asking individual reactions to GHWL – need to get through fairly rapidly so maintain momentum.**

- Let's play a game. There are many different health warning labels on the table, please categorize them into different groups. You can categorize them into as many groups as you want, but please do so in accordance to their similarities or with particular reasons.
- **[Moderator to listen into the participants' discussion on how the grouping was done]**
  - Please explain to me the rationale behind your grouping? What is each group about?
  - What are the commonalities amongst the labels in each group?
  - What are the differences between the groups?

**A2. RATING EXERCISE (Individual Exercise)**

**[Moderator to distribute worksheet A2]**

Without discussing, please rate each label in terms of the following:

**[Moderator to explain to participants that picture refers to the images only and the message is the text that found on top of the images].**

- The picture informs me about the dangers of smoking

- The picture is effective in convincing smokers to quit smoking
- The message informs me about the dangers of smoking
- The message is easy to understand
- The message/ information conveyed is new/ different
  - Where 5 is strongly agree and 1 is the strongly disagree.

### **A3. EXPLANATION OF CHOICES**

1a) Can you pick out the labels that you rated "5" to the sentence "The picture informs me about the dangers of smoking"

- Moderator to go round the table to ask participants the reason(s) why the labels were able to communicate the dangers of smoking well
- Probe: What part of the picture informs you regarding the dangers of smoking?
- Does the picture fit the message?
- Does this tell you about anything new?

1b) Can you pick out the labels that you rated "1" to the sentence "The picture informs me about the dangers of smoking"

- Moderator to go round the table to ask participants the reason(s) why the labels were not able to communicate the dangers of smoking
- Does the picture fit the message?
- Does this tell you about anything new?

2) Can you pick out the labels that you rated "1" to the item "The message is easy to understand?"

- Moderator to go round the table to ask participants the reason(s) why it is difficult to understand the message
- In your own words, what is this message saying to you?
- Do you believe the message?
- What do you not understand?
- How can the message be better phrased?

**MODERATOR TO COVER ALL 18 GHWL AS MUCH AS POSSIBLE WITH PRIORITISATION TO THOSE RATED HIGHER.**

**[Moderator to distribute worksheet A3]**

- Overall, please rank top 6 labels (message and picture) that are most effective in communicating the dangers of smoking?
  - Moderator to go round the table to ask participants their ranking and the reason(s) why the labels are chosen.

**B) Testing of themes (15 min)**

- After going through all the GHWLs, do you notice any themes in terms of the message / tone / approach? **[Note the themes generated]**
- In fact, these GHWL were designed around 8 themes. **[Moderator to reveal the themes]**

**[Moderator to distribute worksheet E]**

- Please rate how relevant each theme is to someone like you. 5 is 'extremely relevant' and 1 is 'not at all relevant'.
- For each theme,
  - What is the main idea/message?
  - What images could best be used to illustrate / demonstrate the topic?
  - Would this idea/message make you think about quitting/ not start smoking? If yes, how?
  - If not, why not? **[Moderator to probe out if participants had rated the theme as relevant – why would it not influence their attitude or behaviour]**
  - Who is the message aimed at? What type of person? (e.g. young/ old., those with family, those with no family)?
  - Why do you say the message is aimed at this type of person? What about the message that makes it relevant for this type of person?
  - **[For people who did not rate any as relevant]** What kind of messages would be relevant to you?
  - Are there any messages that you feel that we can include? **[Moderator to note the concerns mentioned earlier and if there are new angles of messages that can be brought up for discussion]**

**4. Summary and Closing**

**10 MIN/ 150 MIN**

Before I end this session, do you have any other suggestions or opinion to share with us? If not, this is the end of our discussion. Thank you very much for your time and we value your ideas and feedback.

**Moderator to ask before group closure,**

**[Only for smokers] Ask casually the importance of brand in their decision making process.**

**WRAP UP THE DISCUSSION**

## Appendix B – Worksheets

### WORKSHEET A2

Group: \_\_\_\_\_

Set:   A  

Based on the show cards that you have with you, please rate for each of the health warning label, the extent to which you agree/ disagree to each of the following statements on a scale ranging from 1 to 5, with 1 being Strongly Disagree and 5 being Strongly Agree.

<b>Health warning labels</b>					
	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label A</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label B</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label C</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label D</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label E</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label F</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label G</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label H</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label I</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label J</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label K</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label L</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label M</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label N</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label O</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label P</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label Q</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label R</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

## WORKSHEET A2

Group: \_\_\_\_\_

Set:    \_\_\_G\_\_\_

Based on the show cards that you have with you, please rate for each of the health warning label, the extent to which you agree/ disagree to each of the following statements on a scale ranging from 1 to 5, with 1 being Strongly Disagree and 5 being Strongly Agree.

<b>Health warning labels</b>					
	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label G</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label H</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label I</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label J</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label K</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label L</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label M</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label N</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label O</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label P</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label Q</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label R</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label A</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label B</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label C</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label D</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label E</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label F</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

## WORKSHEET A2

Group: \_\_\_\_\_

Set: \_\_\_\_M\_\_\_\_

Based on the show cards that you have with you, please rate for each of the health warning label, the extent to which you agree/ disagree to each of the following statements on a scale ranging from 1 to 5, with 1 being Strongly Disagree and 5 being Strongly Agree.

<b>Health warning labels</b>					
	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label M</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label N</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label O</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label P</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label Q</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label R</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label A</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label B</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label C</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label D</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label E</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label F</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label G</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label H</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label I</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label J</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label K</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>Label L</b>					
The picture informs me about the dangers of smoking	1	2	3	4	5
The picture is effective in convincing smokers to quit smoking	1	2	3	4	5
The message informs me about the dangers of smoking	1	2	3	4	5
The message is easy to understand	1	2	3	4	5
The message is new to me	1	2	3	4	5

### WORKSHEET A3

Group: \_\_\_\_\_

Set:     A    

Overall, please rank the top 6 health warning labels (message and picture) which are most effective in communicating the dangers of smoking, with 1 being most effective, followed by 2,3,4,5 and 6.

LABEL		RANK TOP 6
A	<p style="font-size: 8px;">TOBACCO CONTAINS TOXIC SUBSTANCES THAT LEAD TO SORENESS AND COUGH</p> 	
B	<p style="font-size: 8px;">TOBACCO CAN CAUSE YOUR LUNGS TO FAIL</p> 	
C	<p style="font-size: 8px;">TOBACCO CAN CAUSE YOUR LUNGS TO FAIL</p> 	
D	<p style="font-size: 8px;">TOBACCO CAN CAUSE YOUR LUNGS TO FAIL</p> 	
E	<p style="font-size: 8px;">TOBACCO CAN CAUSE YOUR LUNGS TO FAIL</p> 	
F	<p style="font-size: 8px;">TOBACCO CAN CAUSE YOUR LUNGS TO FAIL</p> 	
G	<p style="font-size: 8px;">WHEN YOU'RE DRUNK, YOUR CHILD BIRTHS TOO</p> 	
H	<p style="font-size: 8px;">TOBACCO CAN CAUSE YOUR LUNGS TO FAIL</p> 	
I	<p style="font-size: 8px;">TOBACCO CAN CAUSE YOUR LUNGS TO FAIL</p> 	

J	<p style="font-size: 8px;">TOBACCO CAN CAUSE YOUR LUNGS TO FAIL</p> 	
K	<p style="font-size: 8px;">TOBACCO CAN CAUSE YOUR LUNGS TO FAIL</p> 	
L	<p style="font-size: 8px;">TOBACCO CAN CAUSE YOUR LUNGS TO FAIL</p> 	
M	<p style="font-size: 8px;">TOBACCO CAN CAUSE YOUR LUNGS TO FAIL</p> 	
N	<p style="font-size: 8px;">TOBACCO CAN CAUSE YOUR LUNGS TO FAIL</p> 	
O	<p style="font-size: 8px;">TOBACCO CAN CAUSE YOUR LUNGS TO FAIL</p> 	
P	<p style="font-size: 8px;">TOBACCO CAN CAUSE YOUR LUNGS TO FAIL</p> 	
Q	<p style="font-size: 8px;">TOBACCO CAN CAUSE YOUR LUNGS TO FAIL</p> 	
R	<p style="font-size: 8px;">TOBACCO CAN CAUSE YOUR LUNGS TO FAIL</p> 	

### WORKSHEET A3

Group: \_\_\_\_\_

Set:  G

Overall, please rank the top 6 health warning labels (message and picture) which are most effective in communicating the dangers of smoking, with 1 being most effective, followed by 2,3,4,5 and 6.

LABEL		RANK TOP 6
G	<p>WHEN YOU'RE ASLEEP, YOUR CHILD BREATHE'S YOU</p> 	
H	<p>SMOKING CAUSES YOUR MOTHER'S BREAST</p> 	
I	<p>TORNADES SMOKING CAUSES YOUR BLIND</p> 	
J	<p>POKERS IN GUMMETS CAN LEAD TO ORAL CANCER</p> 	
K	<p>YOUR ONE CIGARETTE ON HER SCHEDULE CAN MEAN DEATH</p> 	
L	<p>SMOKING WILL SPEED UP YOUR AGING</p> 	
M	<p>TORNADES SMOKING CAUSES YOUR CHILDREN'S HEALTH</p> 	
N	<p>SMOKING CAUSES GUMMETS</p> 	
O	<p>WHEN YOU SMOKING YOUR FAMILY BREATHE'S YOU</p> 	

P	<p>YOUR FIRST CIGARETTE IS YOUR LAST</p> 	
Q	<p>ONE CIGARETTE CAN BE YOUR LAST THE GOOD AND THE BAD</p> 	
R	<p>THIS IS WHAT YOUR ONE CIGARETTE LOOKS LIKE</p> 	
A	<p>TORNADES SMOKING CAUSES YOUR BLIND</p> 	
B	<p>YOUR ONE CIGARETTE ON HER SCHEDULE CAN MEAN DEATH</p> 	
C	<p>SMOKING CAUSES GUMMETS</p> 	
D	<p>SMOKING CAUSES YOUR MOTHER'S BREAST</p> 	
E	<p>SMOKING CAUSES YOUR MOTHER'S BREAST</p> 	
F	<p>WHEN YOU SMOKING YOUR FAMILY BREATHE'S YOU</p> 	

### WORKSHEET A3

Group: \_\_\_\_\_

Set:  M

Overall, please rank the top 6 health warning labels (message and picture) which are most effective in communicating the dangers of smoking, with 1 being most effective, followed by 2,3,4,5 and 6.

LABEL		RANK TOP 6
M	<p>TOBACCO SMOKE HARMS YOUR CHILDREN'S HEALTH</p> 	
N	<p>3 TOBACCO CHILDREN GO BLIND</p> 	
O	<p>WITH YOU SMOKING, YOUR FAMILY BREAKS UP</p> 	
P	<p>BY 2010, 100 MILLION PEOPLE WILL BE BLIND</p> 	
Q	<p>ONE HEARTY EATER YOUR BLASTS THE FOOD AND THE BIRD</p> 	
R	<p>THIS IS WHAT YOUR EYE AND CHEST LOOK LIKE</p> 	
A	<p>TOBACCO CONTAINS TOXIC CHEMICALS THAT LEAD TO SOBBING AND SORRY</p> 	
B	<p>FRANKLY, IT'S A BIT MORE BLASTING</p> 	
C	<p>INCREASED CHANCES OF CANCER</p> 	

D	<p>BY 2010, 100 MILLION PEOPLE WILL BE BLIND</p> 	
E	<p>BY 2010, 100 MILLION PEOPLE WILL BE BLIND</p> 	
F	<p>MOST OF US STAY AND LIVE LONGER THAN WE SHOULD</p> 	
G	<p>BY 2010, 100 MILLION PEOPLE WILL BE BLIND</p> 	
H	<p>BY 2010, 100 MILLION PEOPLE WILL BE BLIND</p> 	
I	<p>TOBACCO SMOKE HARMS YOUR CHILDREN'S HEALTH</p> 	
J	<p>POISONOUS CIGARETTES CAN LEAD TO SOBBING AND SORRY</p> 	
K	<p>BY 2010, 100 MILLION PEOPLE WILL BE BLIND</p> 	
L	<p>BY 2010, 100 MILLION PEOPLE WILL BE BLIND</p> 	

## WORKSHEET E

Group: \_\_\_\_\_

Set: \_\_\_\_\_

Based on the show cards that you have with you, please rate how relevant each theme is to you, with 1 being not at all relevant and 5 being extremely relevant.

Themes	Not at all relevant	Slightly relevant	Moderately relevant	Very relevant	Extremely relevant
Smoking causes diseases	1	2	3	4	5
Smoking causes death	1	2	3	4	5
Smoking causes aging	1	2	3	4	5
Smoking causes addiction	1	2	3	4	5
Second-hand smoke impacts your loved ones	1	2	3	4	5
Smoking harms your child	1	2	3	4	5
Tobacco contains poison	1	2	3	4	5
Smoking cessation / quitting	1	2	3	4	5

## Table of Figures

**Table A: Ranking on overall effectiveness of Graphic Health Warning Labels**

The table below provides a summary of the worksheet findings on ranking the most effective GHWLS in communicating the dangers of smoking. The table below reflects the headcount in each profile group whereby a label is ranked as top 6 in effectively communicating the dangers of smoking. The higher the count, the more effective is the label at communicating the dangers of smoking. The last row indicated mean score, from 1 to 6; the lower the mean score, the more effective the label was perceived to be.

Based on tabulations, Labels C, E, J, D, N and F were the top 6 labels recommended to be used on cigarette packaging.

**Table A: Ranking on overall effectiveness of Graphic Health Warning**

Participant Profile / Count of being ranked top 6	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Non smoker, Aged 18-20, Male		4	5	4	4			1	1	6	5		2		6	7	2	7
Non smoker, Aged 21-29, Male	3		8	8	8	4		3	2	3	2			4	1			1
Non smoker, Aged 30-49, Female	3		10	9	10	3	1	1	1	8		1	1	9		2		1
Non smoker, Aged 30-49, Male			8	6	7	4	1	6		5	1		1	6		2		1
Non-Smoker, 50-69, Female		6	7	9	4	1		2	1	9	1	4	5	3	2	1	2	3
Non-smoker, Aged 18-20, Female			10	8	10	5	1	3	3	10				8	1	1		
Non-smoker, Aged 21-29, Female			7	8	9	6		1		5	2		6	4	2	7	3	
Non-smoker, Aged 50-69, Male	1	1	9	10	10	8		4	6	2	1		2	1			1	4
Smoker, Aged 18-20, Female			7	3	8	2	1	6	3	7	1	1	2	7	3	6	2	1
Smoker, Aged 18-20, Male	1		9	5	9	8	3	1		8				7	1			2
Smoker, Aged 21-29, Male	1		10	9	9	3	2	1		10	2		1	7		1		4
Smoker, Aged 30-49, Female	1		9	3	9	2		4		9				6		9		2
Smoker, Aged 30-49, Male			10	4	10	9		4	3	10		1	3	4	1			1
Smoker, Aged 50-69, Female		2	2	7	3	1	1	5	9		2	1	10	1	5	1	6	4
Smoker, Aged 50-69, Male		1	6	3	8	1		1	6	10	2	1	5	5	4		4	3
Smoker, Aged 21-29, Female			9	8	8	2	3	4		7	1			7		2	2	1
<b>Grand Total</b>	<b>10</b>	<b>14</b>	<b>126</b>	<b>104</b>	<b>126</b>	<b>59</b>	<b>13</b>	<b>47</b>	<b>35</b>	<b>109</b>	<b>20</b>	<b>9</b>	<b>38</b>	<b>79</b>	<b>26</b>	<b>39</b>	<b>22</b>	<b>35</b>
<b>Mean</b>	<b>4.20</b>	<b>4.93</b>	<b>2.37</b>	<b>3.27</b>	<b>2.58</b>	<b>4.41</b>	<b>5.23</b>	<b>4.49</b>	<b>3.63</b>	<b>3.00</b>	<b>4.35</b>	<b>5.22</b>	<b>3.79</b>	<b>3.92</b>	<b>4.04</b>	<b>4.31</b>	<b>4.18</b>	<b>4.43</b>

**Table B: Rating on pictures that inform on the dangers of smoking**

The table below provides a summary of the worksheet findings on each label. It indicates the mean rating on a scale of 1 to 5, where by 1 is strongly disagree and 5 is strongly agree. The higher the mean score, the more participants agree that the picture informed them on the dangers of smoking.

Images E, C, J, D, F and N were top images for informing on the dangers of smoking based on mean score, these top rated images coincided with top 6 for overall effective labels on informing the dangers of smoking.

**Table B: Rating on pictures that inform on the dangers of smoking**

Profile / Mean score	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Non smoker, Aged 18-20, Male	3.44	3.33	4.11	3.89	3.78	3.56	2.56	3.56	3.22	4.11	3.89	2.56	3.44	4.11	3.44	3.89	3.56	3.89
Non smoker, Aged 21-29, Male	4.63	3.63	4.88	4.75	4.88	4.88	3.63	4.50	4.00	4.75	3.38	2.13	4.13	4.63	3.88	4.25	3.00	3.63
Non smoker, Aged 30-49, Female	3.20	2.50	4.40	4.80	4.50	3.50	2.60	3.70	3.10	4.50	2.70	2.50	2.80	4.60	2.70	4.20	2.00	3.60
Non smoker, Aged 30-49, Male	3.38	2.63	4.38	4.38	4.13	4.13	2.88	3.63	3.63	4.38	2.88	2.13	3.50	3.88	3.50	3.75	2.50	3.13
Non-Smoker, 50-69, Female	2.50	3.30	4.80	4.20	4.30	3.50	2.60	3.60	4.20	4.70	3.70	4.20	4.70	3.70	4.20	3.20	3.70	3.60
Non-smoker, Aged 18-20, Female	3.50	2.80	4.20	4.50	4.70	4.40	3.90	4.00	3.90	4.70	3.90	2.20	4.00	4.60	3.70	4.30	3.20	4.30
Non-smoker, Aged 21-29, Female	3.20	1.60	4.30	4.40	4.20	4.00	3.10	3.60	3.00	4.30	3.40	2.20	3.40	4.10	3.70	4.10	3.20	3.40
Non-smoker, Aged 50-69, Male	3.90	4.10	5.00	4.90	4.90	4.80	4.00	3.90	4.60	4.60	4.10	3.70	4.10	4.30	4.00	4.00	3.10	4.30
Smoker, Aged 18-20, Female	2.30	2.70	4.20	3.60	3.90	3.40	2.90	3.20	3.60	3.60	3.50	1.70	3.30	3.60	3.00	3.60	3.00	2.80
Smoker, Aged 18-20, Male	3.67	2.56	3.89	4.33	4.22	4.33	3.78	3.67	3.89	4.56	3.33	2.56	3.78	4.22	3.11	3.56	2.78	4.00
Smoker, Aged 21-29, Female	2.89	2.44	4.44	4.33	4.11	3.89	3.33	3.33	3.22	3.78	3.11	1.56	3.00	4.00	3.00	3.11	2.44	3.00
Smoker, Aged 21-29, Male	2.20	2.50	3.80	4.10	4.00	3.60	3.00	3.20	3.00	4.10	3.10	1.30	2.30	4.00	2.90	3.00	2.40	3.30
Smoker, Aged 30-49, Female	3.00	2.67	3.56	4.22	4.44	3.56	3.00	3.89	3.22	4.22	3.00	2.22	3.11	4.11	2.78	3.67	2.44	3.33
Smoker, Aged 30-49, Male	1.20	1.20	2.90	3.60	3.70	3.70	2.50	3.20	2.30	3.70	2.20	1.60	2.60	2.80	2.00	1.50	2.00	2.30
Smoker, Aged 50-69, Female	2.10	3.80	4.20	3.80	4.30	4.20	2.80	4.10	4.60	4.00	3.80	2.90	4.20	1.50	3.80	2.00	4.00	4.10
Smoker, Aged 50-69, Male	2.80	3.50	4.40	4.30	4.40	4.20	3.40	3.80	3.90	3.70	3.30	3.50	4.40	3.90	4.40	2.50	4.00	3.90
<b>Grand Total</b>	<b>2.96</b>	<b>2.82</b>	<b>4.21</b>	<b>4.25</b>	<b>4.28</b>	<b>3.97</b>	<b>3.12</b>	<b>3.67</b>	<b>3.59</b>	<b>4.22</b>	<b>3.34</b>	<b>2.45</b>	<b>3.55</b>	<b>3.86</b>	<b>3.38</b>	<b>3.39</b>	<b>2.97</b>	<b>3.54</b>

The table below indicates the percentage of participants who rated either agree or strongly agree to the statement: the picture informs me about the dangers of smoking. A higher number implies a greater number of participants who agreed.

Top 2 Boxes % Summary table was provided as reference. All analysis in this report was based on mean score, which is more suited to detect minor variations in rating between the 18 GHWLs.

**Table B1: Rating on pictures that inform on the dangers of smoking**

Profile / T2B%	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
<b>Non smoker, Aged 18-20, Male</b>	67%	67%	78%	89%	78%	67%	33%	67%	44%	100%	89%	22%	78%	89%	78%	89%	78%	78%
<b>Non smoker, Aged 21-29, Male</b>	88%	63%	100%	100%	100%	100%	63%	100%	75%	100%	75%	13%	88%	100%	50%	88%	25%	63%
<b>Non smoker, Aged 30-49, Female</b>	60%	30%	100%	100%	100%	60%	30%	60%	50%	90%	30%	20%	30%	90%	20%	90%	0%	60%
<b>Non smoker, Aged 30-49, Male</b>	63%	38%	100%	100%	88%	88%	25%	75%	75%	100%	38%	13%	50%	75%	50%	63%	13%	38%
<b>Non-Smoker, 50-69, Female</b>	30%	60%	90%	100%	90%	60%	40%	70%	80%	100%	70%	90%	100%	60%	90%	40%	60%	70%
<b>Non-smoker, Aged 18-20, Female</b>	50%	30%	90%	80%	100%	90%	60%	70%	70%	100%	70%	20%	80%	90%	60%	90%	50%	80%
<b>Non-smoker, Aged 21-29, Female</b>	40%	0%	100%	90%	90%	80%	40%	60%	40%	90%	40%	10%	70%	80%	60%	90%	30%	40%
<b>Non-smoker, Aged 50-69, Male</b>	80%	70%	100%	100%	100%	100%	80%	70%	90%	90%	80%	60%	80%	90%	70%	70%	50%	80%
<b>Smoker, Aged 18-20, Female</b>	20%	30%	80%	90%	90%	60%	50%	60%	80%	70%	70%	10%	60%	70%	50%	70%	40%	20%
<b>Smoker, Aged 18-20, Male</b>	56%	22%	100%	89%	100%	100%	78%	56%	78%	100%	56%	22%	78%	100%	33%	67%	44%	89%
<b>Smoker, Aged 21-29, Female</b>	44%	33%	100%	100%	100%	78%	44%	56%	67%	78%	56%	0%	44%	89%	44%	44%	33%	44%
<b>Smoker, Aged 21-29, Male</b>	20%	30%	100%	80%	90%	60%	30%	50%	40%	100%	50%	0%	20%	90%	40%	40%	20%	60%
<b>Smoker, Aged 30-49, Female</b>	56%	22%	100%	56%	100%	67%	44%	78%	56%	78%	44%	22%	44%	89%	44%	78%	33%	56%
<b>Smoker, Aged 30-49, Male</b>	0%	0%	60%	30%	70%	70%	10%	50%	20%	70%	10%	0%	30%	40%	0%	0%	10%	30%
<b>Smoker, Aged 50-69, Female</b>	10%	60%	70%	90%	90%	80%	40%	80%	100%	70%	70%	40%	90%	0%	70%	10%	90%	90%
<b>Smoker, Aged 50-69, Male</b>	20%	70%	100%	100%	100%	90%	40%	70%	90%	70%	50%	60%	100%	80%	100%	20%	90%	80%

## Table C: Rating on pictures that effectively convince smokers to quit smoking

The table below provides a summary of the worksheet findings on each label. It indicates the mean rating on a scale of 1 to 5, where by 1 is strongly disagree and 5 is strongly agree. The higher the mean score, the more participants agree that the picture effectively convince smokers to quit smoking.

Images D, C, E, J, F, H and N were considered to be most convincing in terms of influencing smokers to quit, followed by Images R, I, P, O and M, while Images B, L, A, Q, K and G were the least convincing for smokers to quit smoking (ranked 18th, 17th, 16th, 15th, 14th and 13th respectively). Ranking were determined using mean scores.

**Table C: Rating on pictures that effectively convince smokers to quit smoking**

Profile / Mean score	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Non smoker, Aged 18-20, Male	2.44	3.44	2.44	3.22	3.33	2.89	2.67	3.33	3.11	3.22	3.89	2.67	2.78	2.22	3.11	3.00	2.89	3.22
Non smoker, Aged 21-29, Male	3.00	3.88	2.38	3.63	3.75	3.38	3.13	3.25	3.63	3.63	3.00	1.75	3.63	3.50	3.25	2.50	2.88	3.13
Non smoker, Aged 30-49, Female	2.20	3.90	2.30	4.40	4.30	3.30	2.90	3.50	3.00	4.10	2.40	2.30	2.90	4.40	2.50	3.90	1.90	2.80
Non smoker, Aged 30-49, Male	2.13	3.38	1.75	2.88	3.25	2.75	2.38	3.00	2.25	2.50	2.00	2.25	2.63	2.63	2.25	2.50	1.88	2.25
Non-Smoker, 50-69, Female	1.60	4.00	2.30	3.50	3.60	2.80	2.30	3.00	3.30	4.10	2.70	2.80	3.50	3.40	3.00	2.60	2.90	3.20
Non-smoker, Aged 18-20, Female	2.70	3.70	1.70	4.30	4.10	4.00	3.50	3.50	2.60	4.30	2.50	1.60	2.80	4.40	2.80	3.30	2.70	3.50
Non-smoker, Aged 21-29, Female	3.00	4.10	1.50	4.00	3.90	3.50	3.30	3.00	2.70	3.20	3.30	2.30	2.80	3.60	3.50	3.70	2.80	3.20
Non-smoker, Aged 50-69, Male	3.60	4.60	3.30	4.80	4.80	4.60	3.90	3.90	4.20	4.40	3.70	3.50	3.40	4.00	3.10	3.70	2.90	4.30
Smoker, Aged 18-20, Female	2.20	3.60	1.50	3.50	3.10	2.50	1.90	2.60	2.90	3.20	2.40	1.60	2.70	2.80	2.70	3.20	2.10	2.20
Smoker, Aged 18-20, Male	2.22	3.56	2.22	4.11	3.89	3.89	3.33	3.44	3.22	4.00	3.11	2.56	3.33	4.00	3.33	3.33	2.78	3.44
Smoker, Aged 21-29, Female	1.67	3.89	1.44	3.22	3.00	3.11	3.44	3.11	2.78	3.33	2.67	1.56	2.56	3.56	2.33	2.89	2.22	2.67
Smoker, Aged 21-29, Male	2.10	3.20	2.10	3.50	3.00	3.10	2.80	2.80	2.90	3.30	2.40	1.60	1.90	3.20	2.80	2.60	2.20	3.10
Smoker, Aged 30-49, Female	2.22	3.22	1.89	3.22	3.67	3.00	2.44	3.00	2.56	3.22	2.56	1.78	2.11	3.11	2.22	3.00	1.78	2.78
Smoker, Aged 30-49, Male	1.00	2.50	1.20	3.00	3.10	2.90	2.20	2.70	1.80	3.00	1.70	1.40	2.10	2.20	2.10	1.60	1.70	1.90
Smoker, Aged 50-69, Female	2.00	4.00	3.00	3.40	3.60	3.50	2.60	4.00	3.90	3.20	3.50	3.10	3.00	1.50	3.60	2.30	3.20	3.10
Smoker, Aged 50-69, Male	2.40	4.40	2.60	4.00	4.30	4.10	2.60	3.70	3.30	3.80	2.90	2.80	3.60	3.30	3.50	2.30	3.60	3.70
<b>Grand Total</b>	<b>2.28</b>	<b>3.72</b>	<b>2.11</b>	<b>3.68</b>	<b>3.68</b>	<b>3.34</b>	<b>2.84</b>	<b>3.24</b>	<b>3.01</b>	<b>3.55</b>	<b>2.80</b>	<b>2.23</b>	<b>2.86</b>	<b>3.24</b>	<b>2.89</b>	<b>2.91</b>	<b>2.53</b>	<b>3.04</b>

The table below indicates the percentage of participants who rated either agree or strongly agree to the statement: the picture is effective in convincing smokers to quit smoking. A higher number implies a greater number of participants who agreed.

Top 2 Boxes % Summary table was provided as reference. All analysis in this report was based on mean score, which is more suited to detect minor variations in rating between the 18 GHWLs.

**Table C1: Rating on pictures that effectively convince smokers to quit smoking**

Profile / Top 2 Box %	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Non smoker, Aged 18-20, Male	22%	11%	33%	44%	56%	33%	22%	33%	33%	33%	67%	33%	33%	22%	33%	44%	33%	44%
Non smoker, Aged 21-29, Male	38%	13%	63%	88%	63%	50%	50%	38%	75%	63%	50%	0%	63%	63%	50%	13%	25%	25%
Non smoker, Aged 30-49, Female	10%	20%	90%	70%	100%	40%	40%	60%	40%	70%	20%	10%	40%	100%	20%	60%	10%	40%
Non smoker, Aged 30-49, Male	13%	0%	38%	63%	63%	38%	13%	38%	13%	25%	13%	13%	13%	13%	13%	25%	0%	13%
Non-Smoker, 50-69, Female	0%	0%	60%	80%	60%	40%	20%	40%	50%	70%	10%	10%	50%	50%	40%	10%	30%	30%
Non-smoker, Aged 18-20, Female	20%	0%	90%	70%	80%	80%	60%	60%	20%	80%	10%	0%	20%	90%	30%	60%	30%	60%
Non-smoker, Aged 21-29, Female	40%	0%	60%	80%	60%	40%	50%	30%	40%	30%	50%	20%	40%	50%	70%	40%	30%	30%
Non-smoker, Aged 50-69, Male	70%	30%	100%	90%	100%	100%	70%	70%	70%	80%	60%	50%	40%	70%	40%	60%	30%	80%
Smoker, Aged 18-20, Female	20%	0%	70%	40%	50%	0%	0%	30%	30%	60%	20%	0%	20%	40%	30%	50%	10%	10%
Smoker, Aged 18-20, Male	0%	11%	89%	56%	89%	89%	56%	44%	44%	89%	44%	22%	56%	89%	56%	56%	33%	56%
Smoker, Aged 21-29, Female	0%	0%	44%	89%	44%	44%	44%	33%	33%	56%	22%	0%	33%	56%	11%	44%	22%	33%
Smoker, Aged 21-29, Male	10%	20%	70%	40%	50%	50%	20%	40%	30%	60%	30%	10%	10%	40%	10%	30%	10%	50%
Smoker, Aged 30-49, Female	22%	11%	56%	33%	67%	33%	22%	44%	33%	44%	33%	11%	22%	56%	22%	44%	0%	44%
Smoker, Aged 30-49, Male	0%	0%	20%	10%	30%	30%	10%	30%	10%	20%	0%	0%	10%	10%	20%	0%	10%	10%
Smoker, Aged 50-69, Female	10%	30%	50%	80%	70%	60%	30%	60%	70%	40%	50%	40%	30%	0%	60%	20%	40%	30%
Smoker, Aged 50-69, Male	0%	20%	70%	100%	100%	80%	20%	60%	40%	60%	30%	20%	50%	40%	50%	0%	60%	60%

**Table D: Rating on messages that informs on the dangers of smoking**

The table below provides a summary of the worksheet findings on each label. It indicates the mean rating on a scale of 1 to 5, where by 1 is strongly disagree and 5 is strongly agree. The higher the mean score, the more participants agree that the message informs on the dangers of smoking.

Messages D, E, C, J, F and H were most effective in informing on the dangers of smoking, followed by Messages N, I, R, K, M and P. Messages G, O, A, Q, B and L were less effective in informing on the dangers of smoking.

**Table D: Rating on messages that informs on the dangers of smoking**

Profile / Mean score	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Non smoker, Aged 18-20, Male	4.00	3.11	4.00	3.89	4.00	3.67	3.22	4.00	3.67	3.89	4.11	3.00	3.67	3.56	3.78	3.89	3.56	3.89
Non smoker, Aged 21-29, Male	4.25	3.25	4.75	4.63	4.63	4.75	3.75	4.50	4.50	4.50	3.88	2.00	4.25	4.63	3.75	3.75	3.25	4.13
Non smoker, Aged 30-49, Female	3.30	2.60	4.70	4.50	4.60	4.10	2.80	3.80	3.50	4.30	3.30	2.20	2.20	4.40	2.60	4.30	2.10	3.60
Non smoker, Aged 30-49, Male	4.00	2.88	4.38	4.25	4.38	4.25	2.88	3.50	3.75	4.25	3.50	2.13	3.63	4.25	3.50	3.75	2.50	3.63
Non-Smoker, 50-69, Female	3.00	3.70	4.70	4.60	4.70	4.10	3.60	4.10	4.40	4.60	4.30	3.50	4.40	4.40	4.10	3.30	3.80	3.60
Non-smoker, Aged 18-20, Female	4.00	3.10	4.50	4.00	4.50	4.40	3.60	4.00	4.30	4.80	4.10	1.80	3.90	4.50	3.20	4.30	3.00	4.00
Non-smoker, Aged 21-29, Female	3.40	2.40	4.00	4.00	4.00	4.00	3.40	3.60	3.50	3.60	3.70	2.80	3.90	3.60	3.00	4.20	3.10	3.50
Non-smoker, Aged 50-69, Male	4.10	3.40	4.70	4.70	4.80	4.70	4.00	4.20	4.20	4.50	4.20	3.50	4.10	4.30	3.70	3.70	3.30	4.60
Smoker, Aged 18-20, Female	2.80	2.20	3.70	3.90	3.90	3.60	2.90	3.50	3.50	3.90	3.10	1.50	3.70	3.70	3.10	3.60	2.90	3.30
Smoker, Aged 18-20, Male	3.44	2.56	4.33	4.00	4.00	4.11	3.56	3.67	3.56	3.89	3.56	2.56	3.56	3.89	3.00	3.44	3.44	3.89
Smoker, Aged 21-29, Female	3.22	2.11	4.33	4.00	4.22	4.00	3.78	3.78	3.89	4.22	3.11	2.33	3.22	4.22	3.11	2.78	2.67	4.00
Smoker, Aged 21-29, Male	2.60	2.50	3.90	3.70	3.90	3.90	3.70	3.40	3.70	3.90	3.40	2.30	2.80	3.50	3.10	3.20	2.50	3.10
Smoker, Aged 30-49, Female	3.00	2.56	4.00	3.78	4.44	3.56	3.00	3.78	3.44	4.11	3.33	2.33	3.22	3.78	3.33	3.67	2.67	3.44
Smoker, Aged 30-49, Male	1.20	1.60	3.60	2.70	3.50	3.30	2.30	3.20	2.00	3.60	2.20	1.50	2.70	2.70	2.10	1.70	1.80	2.80
Smoker, Aged 50-69, Female	2.10	2.90	3.80	4.30	3.90	4.00	2.90	4.00	4.30	3.90	4.10	3.20	3.90	1.20	3.50	2.10	3.40	3.60
Smoker, Aged 50-69, Male	2.70	3.20	4.10	4.20	4.30	4.00	3.50	3.80	3.70	3.90	3.50	3.00	3.70	3.70	3.80	2.40	3.50	3.70
<b>Grand Total</b>	<b>3.16</b>	<b>2.75</b>	<b>4.21</b>	<b>4.07</b>	<b>4.23</b>	<b>4.02</b>	<b>3.30</b>	<b>3.80</b>	<b>3.74</b>	<b>4.11</b>	<b>3.59</b>	<b>2.49</b>	<b>3.55</b>	<b>3.75</b>	<b>3.28</b>	<b>3.37</b>	<b>2.97</b>	<b>3.66</b>

The table below indicates the percentage of participants who rated either agree or strongly agree to the statement: the message informs me about the dangers of smoking. A higher number implies a greater number of participants who agreed.

Top 2 Boxes % Summary table was provided as reference. All analysis in this report was based on mean score, which is more suited to detect minor variations in rating between the 18 GHWLs.

**Table D1: Rating on messages that informs on the dangers of smoking**

Profile / Top 2 Box %	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Non smoker, Aged 18-20, Male	89%	56%	89%	78%	78%	67%	56%	100%	67%	89%	100%	56%	78%	67%	78%	78%	78%	78%
Non smoker, Aged 21-29, Male	75%	63%	100%	100%	100%	100%	75%	88%	100%	100%	75%	0%	100%	100%	63%	63%	50%	88%
Non smoker, Aged 30-49, Female	40%	40%	100%	100%	100%	70%	30%	70%	60%	80%	50%	10%	10%	100%	30%	90%	10%	70%
Non smoker, Aged 30-49, Male	75%	50%	100%	100%	100%	100%	25%	63%	75%	100%	50%	0%	50%	88%	63%	63%	25%	63%
Non-Smoker, 50-69, Female	50%	70%	100%	100%	100%	90%	60%	90%	90%	90%	80%	50%	100%	90%	80%	40%	70%	70%
Non-smoker, Aged 18-20, Female	70%	50%	100%	80%	90%	90%	60%	80%	80%	100%	80%	10%	80%	90%	60%	90%	60%	80%
Non-smoker, Aged 21-29, Female	50%	10%	90%	80%	90%	90%	70%	60%	70%	80%	70%	30%	70%	70%	40%	80%	50%	70%
Non-smoker, Aged 50-69, Male	90%	50%	100%	100%	100%	100%	70%	90%	80%	100%	80%	50%	90%	80%	50%	70%	50%	100%
Smoker, Aged 18-20, Female	50%	20%	80%	70%	90%	70%	40%	80%	70%	80%	40%	0%	80%	80%	50%	80%	30%	70%
Smoker, Aged 18-20, Male	67%	22%	89%	89%	78%	89%	56%	67%	56%	78%	67%	22%	56%	78%	44%	56%	56%	78%
Smoker, Aged 21-29, Female	44%	22%	100%	89%	100%	89%	78%	78%	89%	100%	44%	22%	44%	100%	44%	33%	44%	78%
Smoker, Aged 21-29, Male	40%	30%	90%	70%	90%	90%	70%	70%	70%	90%	60%	20%	40%	60%	50%	60%	30%	50%
Smoker, Aged 30-49, Female	22%	22%	89%	67%	100%	67%	33%	78%	56%	89%	56%	0%	44%	67%	44%	67%	22%	67%
Smoker, Aged 30-49, Male	0%	0%	70%	30%	70%	60%	10%	60%	10%	70%	10%	0%	40%	50%	10%	0%	0%	40%
Smoker, Aged 50-69, Female	10%	30%	90%	90%	80%	80%	50%	70%	90%	80%	100%	50%	60%	0%	60%	10%	60%	70%
Smoker, Aged 50-69, Male	20%	50%	80%	100%	100%	80%	60%	70%	70%	90%	70%	30%	70%	60%	80%	10%	60%	70%

## Table E: Rating on messages that is easy to understand

The table below provides a summary of the worksheet findings on each label. It indicates the mean rating on a scale of 1 to 5, where by 1 is strongly disagree and 5 is strongly agree. The higher the mean score, the more participants agree that the message is easy to understand.

Messages E, C, J, I, D and M were the easiest to understand as they were common causes related to smoking – cancer and second-hand smoke. Messages B, K, P, L, G and A were deemed more difficult to understand as they were either weak in communicating the dangers of smoking or its messages contradicted with their corresponding images.

**Table E: Rating on messages that is easy to understand**

Profile / Mean score	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Non smoker, Aged 18-20, Male	4.00	4.00	4.00	3.78	4.11	4.00	3.22	3.78	4.00	3.67	3.89	3.56	4.22	3.67	4.00	4.22	4.44	4.11
Non smoker, Aged 21-29, Male	4.38	4.50	4.75	4.75	4.75	4.63	3.50	4.63	4.63	4.38	3.88	3.75	4.63	4.63	4.13	4.25	4.13	4.38
Non smoker, Aged 30-49, Female	3.60	3.90	4.60	4.50	4.50	4.30	3.60	4.20	4.00	4.30	3.80	3.60	3.60	4.70	3.80	4.50	3.80	3.60
Non smoker, Aged 30-49, Male	4.00	3.75	4.50	4.25	4.38	4.13	3.75	3.75	4.00	4.25	3.75	3.88	4.13	4.00	3.88	4.00	3.50	3.88
Non-Smoker, 50-69, Female	3.50	4.20	4.40	4.10	4.50	3.90	3.60	4.10	4.50	4.30	4.00	4.10	4.60	4.50	4.30	3.70	3.90	3.60
Non-smoker, Aged 18-20, Female	4.40	4.40	4.50	4.40	4.70	4.70	4.40	4.60	4.60	4.60	4.60	4.60	4.70	4.20	4.60	4.70	4.40	4.70
Non-smoker, Aged 21-29, Female	3.90	3.80	4.20	4.00	4.40	4.20	3.90	4.10	4.40	4.20	4.10	3.90	4.00	3.20	3.70	4.30	4.40	3.90
Non-smoker, Aged 50-69, Male	3.40	4.10	4.90	4.70	4.80	4.60	4.10	4.10	4.50	4.40	4.30	3.80	4.40	3.80	3.60	3.50	3.80	4.50
Smoker, Aged 18-20, Female	2.90	3.40	4.00	3.60	3.90	3.60	3.60	3.90	3.90	4.10	3.80	3.80	4.00	3.70	4.10	3.90	3.80	3.50
Smoker, Aged 18-20, Male	3.11	3.89	4.44	4.11	4.22	4.33	4.00	3.78	3.89	4.44	3.89	3.44	3.44	4.00	3.78	3.78	4.22	4.22
Smoker, Aged 21-29, Female	3.00	3.22	4.11	4.22	4.22	3.89	3.89	4.33	4.33	4.33	3.89	4.44	4.22	4.22	4.22	3.89	4.22	4.22
Smoker, Aged 21-29, Male	2.70	3.70	4.00	3.60	4.10	3.80	4.00	3.90	4.30	4.00	3.70	3.70	4.00	3.80	3.70	3.50	3.30	3.70
Smoker, Aged 30-49, Female	3.44	3.67	3.89	4.00	4.22	3.44	3.44	4.11	4.11	4.33	3.67	3.67	3.67	4.22	3.78	3.89	3.56	3.67
Smoker, Aged 30-49, Male	1.90	2.90	3.80	3.10	3.70	3.50	2.70	3.10	2.50	3.80	2.90	2.70	3.20	2.90	3.20	2.70	2.90	3.10
Smoker, Aged 50-69, Female	2.80	4.00	4.10	4.20	4.10	4.10	3.10	4.60	4.40	3.90	3.90	3.90	4.50	2.50	3.90	3.40	4.10	3.90
Smoker, Aged 50-69, Male	3.60	4.10	4.40	4.20	4.30	4.00	4.00	4.00	4.40	4.00	3.30	3.20	3.90	4.20	4.10	3.10	4.00	4.10

<b>Grand Total</b>	<b>3.39</b>	<b>3.84</b>	<b>4.28</b>	<b>4.09</b>	<b>4.30</b>	<b>4.07</b>	<b>3.68</b>	<b>4.06</b>	<b>4.15</b>	<b>4.18</b>	<b>3.84</b>	<b>3.75</b>	<b>4.07</b>	<b>3.88</b>	<b>3.92</b>	<b>3.82</b>	<b>3.90</b>	<b>3.93</b>
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The table below indicates the percentage of participants who rated either agree or strongly agree to the statement: the message is easy to understand. A higher number implies a greater number of participants who agreed.

Top 2 Boxes % Summary table was provided as reference. All analysis in this report was based on mean score, which is more suited to detect minor variations in rating between the 18 GHWLs.

**Table E1: Rating on messages that is easy to understand**

<b>Profile / T2B%</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>I</b>	<b>J</b>	<b>K</b>	<b>L</b>	<b>M</b>	<b>N</b>	<b>O</b>	<b>P</b>	<b>Q</b>	<b>R</b>
<b>Non smoker, Aged 18-20, Male</b>	89%	89%	89%	89%	89%	100%	56%	89%	100%	78%	89%	78%	100%	78%	89%	100%	100%	89%
<b>Non smoker, Aged 21-29, Male</b>	88%	100%	100%	100%	100%	100%	50%	100%	88%	88%	63%	75%	100%	100%	88%	100%	88%	100%
<b>Non smoker, Aged 30-49, Female</b>	70%	90%	100%	100%	100%	90%	70%	100%	90%	90%	70%	60%	60%	100%	80%	100%	90%	60%
<b>Non smoker, Aged 30-49, Male</b>	88%	75%	100%	88%	100%	88%	50%	75%	88%	88%	63%	75%	88%	75%	75%	88%	63%	88%
<b>Non-Smoker, 50-69, Female</b>	70%	90%	100%	70%	100%	80%	70%	80%	100%	90%	80%	90%	100%	100%	90%	70%	80%	60%
<b>Non-smoker, Aged 18-20, Female</b>	90%	90%	90%	90%	100%	100%	90%	100%	100%	90%	100%	100%	100%	80%	90%	100%	90%	100%
<b>Non-smoker, Aged 21-29, Female</b>	80%	80%	100%	90%	100%	100%	80%	90%	100%	100%	80%	70%	90%	40%	70%	100%	90%	80%
<b>Non-smoker, Aged 50-69, Male</b>	70%	80%	100%	100%	100%	100%	80%	80%	100%	90%	80%	70%	100%	70%	60%	80%	80%	100%
<b>Smoker, Aged 18-20, Female</b>	50%	70%	90%	70%	90%	70%	70%	80%	70%	90%	70%	70%	100%	80%	90%	90%	80%	80%
<b>Smoker, Aged 18-20, Male</b>	44%	78%	100%	89%	89%	100%	78%	78%	89%	100%	78%	56%	56%	78%	78%	78%	100%	100%
<b>Smoker, Aged 21-29, Female</b>	44%	56%	89%	89%	100%	78%	89%	100%	100%	100%	89%	100%	100%	100%	100%	78%	100%	100%
<b>Smoker, Aged 21-29, Male</b>	40%	70%	90%	70%	100%	70%	80%	70%	100%	90%	60%	70%	90%	90%	70%	80%	60%	80%
<b>Smoker, Aged 30-49, Female</b>	44%	56%	78%	78%	89%	44%	56%	89%	89%	89%	78%	56%	78%	100%	67%	78%	67%	56%
<b>Smoker, Aged 30-49, Male</b>	20%	40%	80%	40%	80%	40%	10%	50%	20%	90%	30%	30%	50%	40%	50%	20%	50%	60%

<b>Smoker, Aged 50- 69, Female</b>	30%	70%	90%	80%	90%	80%	60%	100%	90%	80%	90%	80%	100%	40%	80%	50%	90%	90%
<b>Smoker, Aged 50- 69, Male</b>	50%	100%	100%	100%	100%	80%	80%	90%	100%	90%	50%	60%	80%	100%	90%	50%	90%	90%

**Table F: Rating on messages that is new**

The table below provides a summary of the worksheet findings on each label. It indicates the mean rating on a scale of 1 to 5, where by 1 is strongly disagree and 5 is strongly agree. The higher the mean score, the more participants agree that the message is new.

Most of the information was not deemed new or different with low mean score indicating familiarity or awareness of information on labels tested.

**Table F: Rating on messages that is new**

Profile / Mean	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Non smoker, Aged 18-20, Male	2.44	1.89	1.89	2.78	1.89	1.89	2.78	2.44	2.22	2.44	2.33	2.11	2.11	2.56	1.78	2.33	2.67	2.56
Non smoker, Aged 21-29, Male	2.25	2.00	1.75	2.25	2.00	2.00	2.75	2.00	2.38	2.13	2.75	2.00	2.25	2.38	2.38	2.88	2.63	2.63
Non smoker, Aged 30-49, Female	2.80	2.40	2.60	2.60	2.40	2.60	2.60	2.80	2.40	2.50	2.40	2.40	2.60	2.20	2.40	2.60	2.90	2.40
Non smoker, Aged 30-49, Male	1.63	1.88	1.63	2.38	2.00	1.88	3.13	2.00	1.88	1.88	2.00	2.38	1.88	2.13	2.13	2.38	2.13	2.13
Non-Smoker, 50-69, Female	2.90	3.20	2.30	2.90	1.50	2.80	2.60	2.40	2.40	1.90	2.70	2.90	3.00	2.40	2.20	3.20	2.20	2.70
Non-smoker, Aged 18-20, Female	1.40	1.20	1.90	2.10	1.40	1.20	1.80	2.40	1.30	1.40	1.80	1.10	1.20	3.60	1.50	2.20	1.80	2.20
Non-smoker, Aged 21-29, Female	2.50	1.70	2.00	2.70	2.10	1.90	2.60	2.80	1.90	2.00	2.30	2.20	2.30	2.10	1.80	2.50	2.40	2.40
Non-smoker, Aged 50-69, Male	3.40	3.20	3.10	3.80	3.40	3.40	3.80	3.50	3.20	3.50	3.70	3.60	3.40	4.00	3.40	3.20	3.50	3.80
Smoker, Aged 18-20, Female	2.10	1.80	1.40	2.20	1.50	1.70	1.80	1.90	1.70	1.60	1.80	2.00	1.60	1.60	1.90	2.10	2.20	1.90
Smoker, Aged 18-20, Male	3.33	3.22	2.00	3.33	2.22	2.67	1.89	2.33	2.67	2.00	3.00	2.44	2.44	2.44	2.44	2.78	2.56	2.89
Smoker, Aged 21-29, Female	2.22	1.67	1.89	2.56	1.89	2.11	1.78	2.00	1.56	1.78	2.33	1.56	1.67	2.22	1.78	2.22	2.00	2.11
Smoker, Aged 21-29, Male	3.00	3.00	2.10	2.90	2.00	2.80	2.30	3.20	2.60	2.50	3.20	2.70	2.90	1.90	2.90	3.50	3.40	3.40
Smoker, Aged 30-49, Female	2.33	2.22	2.11	2.22	2.00	2.22	1.89	1.89	2.22	1.78	2.11	1.78	2.00	2.00	2.22	2.00	2.22	2.11
Smoker, Aged 30-49, Male	2.40	1.90	2.10	2.60	2.50	2.60	2.40	3.00	2.80	2.20	2.40	2.30	1.90	2.40	1.90	2.60	2.60	1.90
Smoker, Aged 50-69, Female	3.20	2.50	2.40	2.40	2.30	2.30	2.50	1.80	2.00	2.00	2.00	2.50	1.70	3.00	1.70	3.20	2.60	2.00
Smoker, Aged 50-69, Male	2.30	2.30	2.00	2.30	2.10	2.40	3.50	3.20	2.60	2.20	2.10	2.30	3.00	2.20	2.60	3.20	2.80	1.70
<b>Grand Total</b>	<b>2.53</b>	<b>2.26</b>	<b>2.09</b>	<b>2.63</b>	<b>2.08</b>	<b>2.29</b>	<b>2.51</b>	<b>2.50</b>	<b>2.24</b>	<b>2.12</b>	<b>2.43</b>	<b>2.28</b>	<b>2.26</b>	<b>2.45</b>	<b>2.19</b>	<b>2.69</b>	<b>2.55</b>	<b>2.43</b>

The table below indicates the percentage of participants who rated either agree or strongly agree to the statement: the message is new. A higher number implies a greater number of participants who agreed.

Top 2 Boxes % Summary table was provided as reference. All analysis in this report was based on mean score, which is more suited to detect minor variations in rating between the 18 GHWLs.

**Table F1: Rating on messages that is new**

Profile / T2B%	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Non smoker, Aged 18-20, Male	22%	0%	11%	33%	11%	0%	33%	22%	11%	11%	11%	11%	11%	33%	0%	22%	33%	22%
Non smoker, Aged 21-29, Male	13%	0%	13%	13%	13%	0%	38%	0%	13%	0%	25%	0%	13%	13%	13%	25%	25%	25%
Non smoker, Aged 30-49, Female	30%	20%	20%	30%	20%	10%	20%	20%	20%	20%	20%	20%	20%	20%	10%	30%	20%	10%
Non smoker, Aged 30-49, Male	0%	0%	0%	25%	25%	13%	38%	13%	13%	0%	13%	25%	13%	13%	0%	13%	13%	13%
Non-Smoker, 50-69, Female	50%	60%	30%	50%	10%	40%	40%	30%	30%	20%	30%	50%	50%	30%	30%	50%	30%	30%
Non-smoker, Aged 18-20, Female	0%	0%	10%	20%	0%	0%	10%	20%	0%	0%	10%	0%	0%	70%	0%	20%	10%	20%
Non-smoker, Aged 21-29, Female	20%	0%	10%	40%	20%	10%	20%	40%	10%	10%	10%	30%	30%	20%	0%	40%	30%	20%
Non-smoker, Aged 50-69, Male	60%	50%	30%	70%	60%	60%	80%	70%	50%	60%	60%	50%	30%	80%	50%	50%	60%	70%
Smoker, Aged 18-20, Female	20%	10%	0%	20%	0%	10%	10%	20%	10%	10%	20%	20%	10%	0%	10%	20%	20%	10%
Smoker, Aged 18-20, Male	56%	44%	11%	56%	22%	44%	11%	22%	33%	22%	44%	22%	33%	33%	22%	33%	33%	44%
Smoker, Aged 21-29, Female	22%	0%	11%	33%	11%	22%	0%	11%	0%	0%	33%	0%	0%	22%	0%	11%	11%	22%
Smoker, Aged 21-29, Male	30%	20%	0%	20%	0%	20%	10%	40%	20%	20%	40%	40%	20%	0%	30%	60%	60%	40%
Smoker, Aged 30-49, Female	22%	0%	11%	11%	11%	11%	11%	11%	22%	0%	0%	0%	0%	11%	0%	0%	0%	0%
Smoker, Aged 30-49, Male	20%	20%	0%	20%	10%	20%	20%	40%	20%	10%	10%	0%	0%	10%	0%	10%	10%	0%
Smoker, Aged 50-69, Female	40%	20%	20%	20%	20%	20%	30%	10%	10%	0%	0%	30%	10%	40%	0%	40%	30%	10%
Smoker, Aged 50-69, Male	40%	30%	10%	30%	20%	30%	60%	50%	30%	0%	10%	10%	50%	20%	30%	50%	50%	10%

**Table G: Ranking on the 8 themes tested**

The table below provides a summary of the worksheet findings on each label. It indicates the mean rating on a scale of 1 to 5, where by 1 is 'not at all relevant' and 5 is 'extremely relevant'. The higher the mean score, the more participants agree that the theme is relevant.

“Smoking causes diseases”, “Second-hand smoke impacts your loved ones” and “Smoking harms your child” resonated most with participants across most profile groups. This was aligned with the rest of the report whereby participants were fearful of diseases which was closely correlated with smoking and the harm from second-hand smoke that their loved ones or innocent children may face.

**Table G: Ranking on the 8 themes tested**

Profile / Mean score for each theme	Average of Smoking causes diseases	Average of Smoking causes death	Average of Smoking causes aging	Average of Smoking causes addiction	Average of Second-hand smoke impacts your loved ones	Average of Smoking harms your child	Average of Tobacco contains poison	Average of Smoking cessation
Non smoker, Aged 18-20, Male	4.44	3.56	3.22	3.33	4.56	4.00	3.33	2.44
Non smoker, Aged 21-29, Male	4.75	4.50	3.63	4.25	4.75	4.88	4.75	2.38
Non smoker, Aged 30-49, Female	4.50	3.60	3.10	3.50	4.20	3.60	2.90	2.40
Non smoker, Aged 30-49, Male	4.25	3.75	3.25	3.25	3.75	3.63	3.13	1.75
Non-smoker, 50-69, Female	4.60	3.80	3.00	4.30	4.60	4.10	4.20	4.70
Non-smoker, Aged 18-20, Female	4.50	4.40	3.50	3.10	4.50	2.50	3.00	1.70
Non-smoker, Aged 21-29, Female	4.20	3.30	4.00	2.70	4.20	4.10	3.20	2.50
Non-smoker, Aged 50-69, Male	4.40	3.70	2.10	4.10	4.60	4.50	2.70	3.30
Smoker, Aged 18-20, Female	3.70	2.50	2.80	2.60	3.80	3.10	2.80	2.40
Smoker, Aged 18-20, Male	4.33	3.89	3.89	4.33	4.11	3.89	4.11	4.11
Smoker, Aged 21-29, Male	3.90	3.20	2.30	2.30	3.40	3.40	2.50	2.30
Smoker, Aged 30-49, Female	4.00	3.00	3.44	2.67	3.33	2.44	2.56	2.11
Smoker, Aged 30-49, Male	3.10	2.20	2.20	3.40	2.80	2.90	1.40	1.10
Smoker, Aged 50-69, Female	2.70	1.80	1.70	3.80	4.60	4.80	1.60	3.40
Smoker, Aged 50-69, Male	3.90	3.40	2.10	4.00	4.30	4.50	1.90	3.40
Smoker, Aged 21-29, Female	4.11	2.67	2.78	3.56	4.11	4.22	2.44	1.44
<b>Grand Total</b>	<b>4.07</b>	<b>3.31</b>	<b>2.91</b>	<b>3.44</b>	<b>4.10</b>	<b>3.78</b>	<b>2.88</b>	<b>2.61</b>