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Shark Fin Soup Consumption Reduction Survey 2018

Drivers of demand and behavior change in Mainland China, Hong Kong, Taiwan and Singapore

July 2018

ADM CAPITAL FOUNDATION

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How to read this report

This report is very data rich and we have established several sections, in varying degree of detail, which can basically be split into two:

For the time-pressured reader:

- The Executive Summary (pages 19 - 26) provides the main learnings and implications in 4 pages – this should be read in conjunction with section 2;
- Section 2.2 (pages 27 - 36) delivers the key findings, conclusions and implications; this should be read together with the executive summary for a high level overview
- Section 5 (pages 111 - 115) gives the recommendations

In addition, for the in-depth reader:

- Section 1 (pages 5 - 18) gives the context, the methodological foundation and the analytic framework of the study;
- Section 3 (pages 37 – 101) provides an in-depth analysis and detailed findings on the consumption of shark fins
- Section 4 (pages 102 – 110) provides an in-depth analysis and detailed findings on the consumption of manta ray and mobula ray gills consumption
- Section 6 (pages 116 – 129) or the appendix provides additional details on the methodology and detailed analytic charts

This regional report is predominantly based on the quantitative study, and the source (question, sample size) of every data point is mentioned at the bottom of that page. If the results come from the qualitative study (on which a separate report has been issued), this is indicated separately.



1. Background, Objectives, Methodologies and Analyses

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Background

ADM Capital Foundation commissioned this survey in four markets to increase understanding of current shark fin consumption trends and to inform in the development and implementation of targeted, evidence-based and market-specific behavior change communication and awareness campaigns.

The demand for shark fin in East and Southeast Asia has long been considered a major driver behind the overfishing of sharks. While global efforts to better manage shark and ray fisheries appear to be accelerating, efforts are likely undermined if there is strong demand. The ultimate aim is to reduce demand for shark fin and mobula ray gill plates across the region through a well-coordinated, best practice approach that delivers locally-specific intervention strategies.

This report presents the results from an extensive and comprehensive research study conducted amongst a general population representative sample in Mainland China, Hong Kong, Taiwan and Singapore between October 2017 – March 2018 on the topic of reducing consumption of shark fin soup. More detailed results are presented in market-specific reports.

The report is a synthesis of a three-phased research approach:

1. Desk research of relevant studies conducted earlier on this topic
2. Qualitative phase, which included 8 focus group discussions (FGDs) in total with shark fin soup consumers: 4 FGDs in Mainland China, 2 FGDs in Taiwan, 1 in Hong Kong, and 1 in Singapore.
3. Quantitative survey: 7099 structured on-line interviews in total across Mainland China, Hong Kong, Taiwan and Singapore, among which 3517 respondents in total (3209 after weighting) are Past 12 Months Shark Fin Soup Consumers and/or Mobula Ray gills Ever Consumers.



Objectives

The results provide insight into the attitudes, beliefs and values driving the consumption of, and demand for shark fin soup, manta and mobula ray gill plates. The research also aims to identify specific behaviors and audiences that could form the focus of a targeted set of behavior change communications and approaches.

More specifically, the survey objectives are:

- Estimate consumption in each of the four markets studied

(Note: Estimated consumption is based on the % of respondents who claim to have consumed in the past, and does not intend to generate a figure for comparison against previous baselines set by others)

- Uncover motivations, drivers and inhibitors of consumption of shark fin soup and mobula ray gill plates
- Segment the consumers (via an attitudinal segmentation), so that different segments can be best addressed in targeted messages
- Test a limited number of messages and provide input for the messages which resonate best with the different consumer segments
- Establish market comparisons: What are the differences and similarities between the four market surveyed?



Methodology Overview: Desk and Qualitative Research

Phase 1: Desk Research

Review of existing research materials: A combination of proprietary research conducted by ADM Capital Foundation, TRAFFIC, WWF, GlobeScan, extensive desk research online: see page 118 for an overview of literature studied.

Phase 2: Focus Group Discussions (FGDs)

From 19th September to 13th October 2017, 8 Focus Group Discussions (FGDs) were conducted in 4 different markets: 4 in Mainland China (2 in Guangzhou, 1 in Shanghai, 1 in Beijing), 1 in Hong Kong, 1 in Singapore and 2 in Taiwan (1 in Taipei and 1 in Kaohsiung).

A list of respondents' criteria was set prior to recruitment to ensure a good mix of respondents that had knowledge of the topic, had experience consuming shark and/or ray products and were well articulated in each focus group. Each focus group included:

- A mix of ages between 25–59 years old, 50/50 split of gender and active/passive consumers in each group
- At least 3–4 respondents who consumed shark fin soup in the past 12 months, and the other respondents who consumed at least one type of shark product in the past 12 months
- At least 1 respondent per FGD who consumed mobula ray gill in the past 12 months
- 1–2 respondents who were heavy shark products consumers
- 1–2 respondents who were medium/occasional shark products consumers

All focus groups were moderated by local qualitative research professionals and observed or listened to by GlobeScan and/or TRAFFIC/ADMCF team members, in a separate space/viewing room which could not be seen by participants.

Methodology Overview: Quantitative Research

Phase 3: Quantitative Research

The quantitative survey was conducted online, from January 18 to March 12, 2018. Respondents from an online panel were invited to participate in the survey via email, with a questionnaire length of 18 minutes on average.

In total, 7099 respondents from the online population in all four markets were sampled. The overall online population represents over 90 percent of those aged 18 years and older in Hong Kong, Taiwan, Singapore and urban centers of Mainland China.

Any respondents under 18 years of age and/or any respondent working in the advertising, public relations, marketing, market research and media industries were screened out.

This quantitative survey was based on two distinct samples:

1. **A general population representative sample** of 7099 respondents (i.e., 3543 respondents in Mainland China, 859 in Hong Kong, 1541 in Taiwan, 1156 in Singapore), representative by gender, age and education of the general population in each market. To achieve this sample, quotas were set from the start of fieldwork and were monitored regularly during the fieldwork. This sample was recruited to be able to define the incidence of shark fin soup and mobula ray gill plates consumption.

2. **A specific sample of consumers:**

- A sample of 3517 shark fin soup consumers in the past 12 months and/or mobula ray gills Ever Consumers (i.e., 1695 respondents in Mainland China, 606 in Hong Kong, 603 in Taiwan, 613 in Singapore). This sample allows the uncovering of motivations, drivers and inhibitors of shark fin soup consumption and to establish the segmentation.
- This sample also allows an analysis of mobula ray gills consumers (ever) at a significant level.

Methodology Overview: Sub-groups Definition

Education

Education	Mainland China	Hong Kong	Taiwan	Singapore
Low	No education / Incomplete primary / Primary	Not completed high school	Not completed high school	Below secondary
Middle	Lower secondary / Upper Secondary	Completed high school (qualification for University) / High school plus vocational training	Completed high school (qualification for University) / High school plus vocational training	Secondary
High	Post-secondary	Completed University or equivalent / Master or Doctor's Degree	Completed University or equivalent / Master or Doctor's Degree	University / diploma or professional qualification / Post-secondary (non tertiary)

Monthly Personal Income (before taxes)*

Income	Mainland China	Hong Kong	Taiwan	Singapore
Low	Below RMB 7,999	Below HKD 14,999	Below NTD 30,000	Below SGD 1,999
Middle	RMB 8,000–14,999	HKD 15,000–49,999	NTD 30,000–99,999	SGD 2,000–7,999
High	RMB 15,000 or above	HKD 50,000 or above	NTD 100,000 or above	SGD 8,000 or above

Monthly Personal Income (before taxes) in USD based on April 2018 exchange rates*

Income	Mainland China	Hong Kong	Taiwan	Singapore
Low	Below USD 1,249	Below USD 1,911	Below USD 1,000	Below USD 1,488
Middle	USD 1,250–2,349	USD 1,912–6,243	USD 1,001–3,335	USD 1,489–5,950
High	USD 2,350 or above	USD 6,244 or above	USD 3,336 or above	USD 5,951 or above

*Income brackets were set based on the average salary of the internet population in the markets surveyed, i.e., slightly higher than the average salary (for instance, for Mainland China, the average income is estimated to be approximately RMB8,000 per month).
Source: China Daily article, 23 June 2017, http://www.chinadaily.com.cn/bizchina/2017top10/2017-06/23/content_29853826.htm

Methodology Overview: Sub-groups Definition

Definition of Consumer Sub-groups

Various consumer sub-groups were analyzed in this survey and defined based on specific questions or via a segmentation analysis.

The key sub-groups of consumers are defined as follows:

Key sub-groups analyzed in this report	Definition	Question used to define the sub-group
Ever Consumers of shark fin soup	Respondents who claim to have consumed shark fin soup at least **once in the past (anytime).**	Q1. Have you ever eaten any of the following foods? - Shark fin soup
Past 12 Months Consumers of shark fin soup	Respondents who claim to have consumed shark fin soup at least once **in the past 12 months.**	Q2/Q2a. In the past 12 months, have you eaten anything of the following, even if only once? - Shark fin soup
Rejecters	They consumed shark fin soup at least once in the past 12 months. They either stopped consuming shark fin soup in the past year or intend to decrease consumption or stop.	Multiple questions, these segments are based on a segmentation using Latent Class clustering (please refer to slide 13)
Persuadable Consumers	They consumed shark fin soup at least once in the past 12 months. They are mostly occasional consumers; and a majority intends to consume less shark fin soup in the future.	
Diehard Consumers	They consumed shark fin soup at least once in the past 12 months. They are regular/ frequent consumers who intend to continue consuming shark fin soup in the future.	

Methodology Overview: Sub-groups Definition

Rationale behind the recruitment of a General Population Representative Sample

- As the objective of the survey was to conduct an in-depth analysis of shark fin soup consumers, the questionnaire and main analysis is focused on the Past 12 Months Consumers only (i.e., they answered the behavioral/attitude questions on consumption and on communication).

- This focus on consumers allows an in-depth analysis by various sub-groups of consumers (by age, gender, education, consumption behavior, segments, etc.).

- A general population representative sample was recruited as well in order to fulfill the following objectives and analysis:
    1. Ensure that the sample of respondents who take the survey are representative of the general population, so that there is no bias in the profile that could influence the findings
    2. Allow to calculate the ever and past 12 months consumption incidence
    3. Allow to compare the profile of the consumers vs the general population on key demographics

- While this regional report is meant to give the high-level findings and data across markets and key segments, the market reports include more of the detailed analysis by shark fin soup consumer sub-groups.

Methodology Overview: Fieldwork and Sampling

Quantitative Research: Fieldwork Monitoring and Sampling Plan

- The fieldwork has been monitored on a daily basis and detailed checks of interim data have been performed during fieldwork (at 10%, 20%, 55% and 80% of sample completion) to ensure data quality and consistency.

- The official census data in each market was used to set these quotas, see links below:
  - Mainland China: http://www.stats.gov.cn/tjsj/ndsj/2016/indexeh.htm
  - Hong Kong : https://www.censtatd.gov.hk/home/
  - Taiwan: https://eng.stat.gov.tw
  - Singapore: https://www.singstat.gov.sg/statistics/browse-by-theme/census-of-population

- During fieldwork, the detailed reviews and monitoring enabled the ability to take action in order to meet the quotas. For instance, for the sub-groups with slow progress (e.g., 65 years old and above), more invitations were sent to these potential respondents via different panels, fieldwork was open longer for completing these samples, etc.).

Detailed Methodology: Fieldwork and Sampling

Quantitative Research: Quotas

- In order for the sample to be representative by gender, age and education, quotas were set from the start of fieldwork and were monitored regularly during the fieldwork.
- The Quotas are set based on the local definitions for specific sub-groups. For instance, the definitions of the education levels are different by market and this is reflected by the quotas, which represents the highest level of education reached by the respondent. For instance, the high education level in Mainland China represents "Post-secondary education," in Hong Kong and Taiwan it is defined as "Completed University or equivalent / Master or Doctor's Degree" and in Singapore it is defined as "University / diploma or professional qualification / post-secondary (non tertiary)."
- The following quotas were used at total market level:

Quotas by Gender	Male	Female
Mainland China	51.2%	48.8%
Hong Kong	46.0%	54.0%
Taiwan	49.9%	50.1%
Singapore	49.1%	50.9%

Quotas by Education	High	Middle	Low
Mainland China	9.5%	62.3%	28.2%
Hong Kong	29.8%	50.5%	19.6%
Taiwan	43.0%	30.9%	26.1%
Singapore	47.0%	19.6%	33.4%

Quotas by Age	18-24	25-34	35-44	45-54	55-64	65 and over
Mainland China	11.8%	20.9%	19.5%	20.7%	14.1%	13.0%
Hong Kong	9.0%	17.1%	18.2%	19.1%	17.8%	18.9%
Taiwan	11.5%	19.0%	19.5%	19.3%	16.1%	14.7%
Singapore	11.3%	18.0%	20.0%	20.1%	16.7%	14.0%

Detailed Methodology: Achieved Sample and Weighted Sample

Achieved Sample and Weighted Sample by Market

- As the weighting had to be applied on the general population representative sample to be fully representative of the general population (by gender, age, education), the weighted samples of the general population representative sample were defined based on the incidence of Past 12 Months shark fin soup consumers and/or mobula ray consumers (for which a target of 1600 in Mainland China and 600 in each Hong Kong, Taiwan and Singapore has been set).
- **The quota was set on the general population representative sample only. The sample of consumers is an output/result of this survey, hence we can't set quotas on this sample, in order not to influence the actual profile of these consumers (which is a learning/ part of the analysis).**

- As a result, given that the sample of Past 12 Months shark fin soup consumers and/or mobula ray consumers is an outcome of the general population representative sample, the weighted sample for these consumers slightly changes after weighting.
- Since the achieved sample in each market is very close to the target, and three different layers of weighting have been applied on the general population representative sample already, the data was not further weighted down to match exactly 1600 in Mainland China and 600 in Hong Kong, Taiwan or Singapore. Moreover, as the analysis is done at market level (no average of all markets is presented as it would not allow understanding of the key issues), the sample sizes vary slightly between markets.

Detailed Methodology: Achieved Sample and Weighted Sample

Achieved Sample and Weighted Sample by Market

The final samples achieved are robust and have a low margin of error at market level (for more details, please see appendix):

General population representative sample	Unweighted sample size (*n*=)	Weighted sample size (*n*=)	Margin of error
Mainland China	3543	3543	1.6%
Hong Kong	859	859	3.3%
Taiwan	1541	1541	2.5%
Singapore	1156	1156	2.9%

Past 12 Months Shark Fin Soup Consumers and/or mobula ray gills Ever Consumers	Unweighted sample size (*n*=)	Weighted sample size (*n*=)	Margin of error
Mainland China	1695	1456	2.6%
Hong Kong	606	599	4.0%
Taiwan	603	586	4.0%
Singapore	613	568	4.1%

Design and Analyses

Segmentation Analysis

Attitudes and behaviors towards shark fin soup consumption are very diverse and interactive. They form unique combinations or patterns that should be specifically addressed in communication campaign. In order to identify such patterns and link them to specific groups of individuals and the communication channels they use we normally conduct segmentation analysis.

In order to identify homogenous groups of shark fin soup consumers in terms of their behavior, intentions, attitudes and motives, we have developed a custom segmentation using Latent Class clustering. This analysis helped identify three distinct segments: ***Rejecters, Persuadable Consumers and Diehard Consumers***. This three-segment solution is more clear-cut, robust, interpretable, applicable and trackable than four- or five-segment solutions which we have also explored.

Shark Fin Soup Attractiveness Index

We constructed a customized index, called the Shark Fin Soup Attractiveness Index, which can be considered as a barometer or a predictive score of shark fin soup attractiveness. This allows for the customization of strategies and messages for sub-groups, e.g., consumer segments, market, age groups, etc., and was developed by reducing key attributes that were related to the consumption and the drivers of demand of shark fin soup down to four dimensions: (1) Consumption (i.e., past and intended future consumption), (2) Perceived Health Benefits, (3) Uniqueness (referring mostly to the unique aspects of shark fin soup such as taste and quality) and (4) Symbolic Value. It is a sum of these dimensions, adjusted to a scale from 1 to 10, with 1 being the least attracted to consume shark fin soup and 10 being the most attracted.

Path Analysis: Please refer to section 3.3 for explanation

Detailed descriptions and rationale of methods and analysis used can be found in the relevant chapters throughout the report and in the appendix.

Design and Analyses

MaxDiff (Maximum Differentiation Scaling)

In order to achieve a greater differentiation between the motives of purchase, we deployed MaxDiff design. MaxDiff scores, which result from the ranking exercise, describe the **hierarchy and/or strength** of motives or opinions better than direct ratings. (Note: Please refer to the MaxDiff chart called 'Opinions on Shark Fin Soup Consumption' in chapter 3.3 for for the illustration of this 'hierarchy').

Ratings scales are vulnerable to the so-called "acquiescence bias" which is a category of **response bias** in which respondents to a survey have a tendency to agree with all the questions or to indicate a positive connotation.

Using MaxDiff provides a better differentiation between the item importance compared to rating scales, mainly because:
With rating scales, there can be many straight-line answers, such as giving ratings of 3 to all items on a 5-point scale.
Cultural biases in the use of the scale. For example, respondents in Mainland China tend to use the top portion of the scale, while respondents in Germany tend to use the middle or bottom portions of the scale.

Research has shown that importance scores obtained with MaxDiff range from 0 to 10 were more varied compared to the range from 5 to 8 obtained with stated importance ratings (e.g., everything is important).

Detailed descriptions and rationale of methods and analysis used can be found in the relevant chapters throughout the report and in the appendix.



2.1 Executive Summary

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Shark Fin Soup Consumption

Past 12 months consumption of shark fin soup (amongst general population)

Within the **General Population Representative Sample** of 1541 respondents in Taiwan; 3543 in Mainland China; 859 in Hong Kong and 1156 in Singapore, **4 in 10 in Taiwan and Mainland China, 5 in 10 in Singapore, to 7 in 10 in Hong Kong** have consumed shark fin soup in the Past 12 Months.

Hong Kong		**69%**
Singapore		**46%**
Mainland China		**40%**
Taiwan		**37%**

All occasions of consumption in the past 12 months

The main occasions of consumption are **wedding banquets** in Hong Kong, Taiwan and Singapore. In Mainland China the occasions to consume are **more diverse, more numerous,** and are mostly **social occasions.**

Hong Kong	**Wedding banquet 61%**	Chinese New Year 21%	Business banquet 21%
Singapore	**Wedding banquet 61%**	At a restaurant 36%	Chinese New Year 32%
Mainland China	**Friends Reunion 40%**	Family Event 34%	At a Restaurant 32%
Taiwan	**Wedding banquet 56%**	At a Restaurant 40%	Family Event 24%

Dominant Opinions and Deterrents of Consumption

Based on a list of both drivers and inhibitors of consumption (25 statements), all markets share the same **Top 3 leading opinions** on shark fin soup consumption. These opinions are all related to **conservation,** and are negative views of consumption**, i.e. deterrents.** Other deterrents relate to **tradition / substitution,** and consequently, challenge the **social pressure** associated with shark fin soup.

Leading Views (in all markets)

It is essential to **protect sharks** from extinction



Shark fins are harvested in a very **cruel** way



A **government ban** on shark fin harvesting is absolutely necessary



Other major deterrents

Shark fin soup in a set dinner can easily be **substituted***



The **tradition** of shark fin soup will soon **fade out** *(Except in Mainland China)*



**Please refer to chapter 3 for more details on substitutes*

Main Drivers of Consumption

Across all markets, the leading **drivers** to shark fin soup consumption are related to its **symbolic value** (tradition) and **uniqueness** (taste, quality) in all markets. Consumers also strongly agree with drivers related to **social pressure** (please the elders). There are also drivers by markets, i.e. **health benefits** in Mainland China and Taiwan.

Leading Drivers (in all markets)

Serving a shark fin dish is a **tradition** in the Chinese culture



When buying shark fin, **quality*** is the most important



Shark fin soup **tastes great**



In a banquet, I don't refuse shark fin soup, not to create **embarrassment**



Other specific drivers (by market)

In Mainland China
Nurture and cure **skin conditions**



In Hong Kong
Shark fin soup is served to **please the elders** (parents/ grand-parents)



**Please refer to the slide called "Definition of the Quality of Shark Fins" in chapter 3.3 for more details.*

What do the consumers intend to do in the future?

Different intended consumption patterns are observed in the four markets surveyed. They show that **Hong Kong and Taiwan are the most likely to change, Singapore has a medium likelihood to change and Mainland China is the least likely to change**, when it comes to **decreasing** shark fin soup consumption.

Hong Kong

Taiwan

Shark fin soup consumers are mostly **infrequent** consumers (77%). They think that shark fin soup consumption **should be decreased** and a vast majority confirms that they will (intend to) **decrease their own consumption** in the future.

Singapore

Shark fin soup consumers are mostly **infrequent (76%)** and **passive** consumers. However, their future intention to consume is slightly different than in Hong Kong and Taiwan. Only less than half (46%) confirm that they will (intend to) **decrease their own consumption** in the future and **one in three do not expect to change their behavior.**

Mainland China

Consumers show **more persistence** to consume shark fin soup in the future. Half of them are **regular shark fin soup consumers** and a majority (56%) expects to consume shark fin soup **at the same frequency or more often** in the future. Half of the consumers (47%) are the **main decision-maker** when including shark fin soup in banquets.

*Base: Past 12 months shark fin soup consumers: *n*=1425 in Mainland China, *n*=591 in Hong Kong, *n*=573 in Taiwan, *n*=528 in Singapore

What do the consumers intend to do in the future?

	Frequency of consumption*			Future intention to consume shark fin soup*		
	Occasional consumers (1-2 times)	Regular consumers (3+ times)	Avg. frequency (# times)	"Would definitely/ probably eat **more** frequently"	No change	"Would definitely/ probably eat **less** frequently"
Hong Kong	81%	19%	1.7	7%	23%	64%
Taiwan	77%	23%	1.9	10%	19%	66%
Singapore	76%	24%	1.9	12%	33%	46%
Mainland China	49%	51%	2.8	32%	24%	42%

*Base: Past 12 months shark fin soup consumers: *n*=1425 in Mainland China, *n*=591 in Hong Kong, *n*=573 in Taiwan, *n*=528 in Singapore

Communication and Messages on Shark Protection

Preferred Message*

Among the past 12 months consumers, the message on **Extinction** is most ranked as the **preferred message** out of the options provided in all markets.

An estimated 100 million sharks are killed every year with fins from up to 73 million used for shark fin soup, primarily to supply the markets in Asia. And 94.9 percent of shark species cannot maintain population stability if the harvest continues. The consumption of shark fins could lead to the extinction of sharks which have lived on this planet for over 400 million years.

% Ranked as Top 1 message:

Hong Kong	30%
Taiwan	36%
Mainland China	34%
Singapore	33%

2nd Preferred Message*

Among the past 12 months consumers, the message on **Animal Cruelty** gets the 2nd best score as the **preferred message** out of the options provided in all markets.

Expensive fin soups are made of shark fins. During fishery activities, in order to stockpile the most shark fins, sharks are often captured, finned and abandoned. Sharks without fins cannot swim in the sea and will bleed to death.

% Ranked as Top 1 message:

Hong Kong	21%
Taiwan	26%
Mainland China	17%
Singapore	21%

Note: Messages selected from a limited range. This does not necessarily mean that people will stop consuming shark fin, after hearing the preferred message.

* Please refer to chapter 3.5, for the full list of tested messages (6 messages tested in Mainland China / 5 in Hong Kong, Taiwan and Singapore). Results based on Q16. Which one of the following messages affects your intention to consume shark fin soup the most? – Please refer to chapter 3.5 for detailed information. Base: Past 12 Months Shark Fin Soup Consumers:

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How to communicate messages on shark protection?

Campaigns support

In Hong Kong and Singapore, 6 in 10 of the consumers intend to support a campaign versus over **8 in 10 in Mainland China and Taiwan.** The type of support they intend to give is similar in all markets:


Stop consuming shark fin soup


Speaking with family/ friends


(Re-)posting messages on social media

Most Trusted messengers

Hong Kong	Government **48%**	Celebrities **41%**	**Mainland China**	Government **50%**	Journalists **41%**
Taiwan	Celebrities **49%**	Government **44%**	**Singapore**	Government **51%**	Family 33%

* Please refer to page 80, for the full list of tested messages. Results based on Q16. Which one of the following messages affects your intention to consume shark fin soup the most? – Please refer to chapter 3.5 for detailed information.



2.2 Key Findings and Conclusions

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Summary of Findings – Segmentation (based on consumers)

Segments' Definition across all markets

The three following segments* of past 12 months shark fin soup consumers were identified in each of the market:

Rejecters

Either stopped consuming shark fin soup in the past year or intend to decrease consumption or stop. Their past consumption is mostly driven by social pressure.

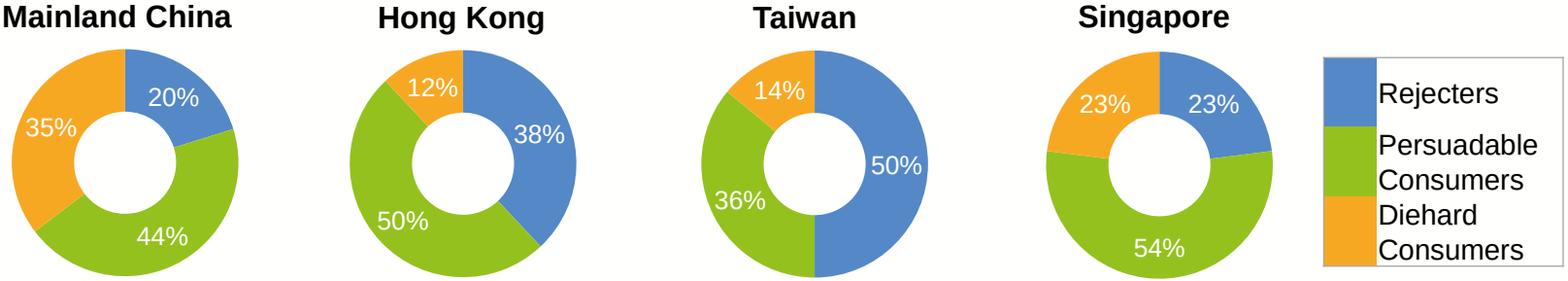
Persuadable Consumers

Mostly occasional consumers; a majority intends to consume less shark fin soup in the future. Their past consumption is mostly driven by tradition.

Diehard Consumers

Active consumers who intend to continue consuming shark fin soup in the future. Their past consumption is mostly driven by the unique aspects of shark fin soup (i.e. taste, quality).

Segments' Representation by Market



***See detailed description of segmentation in chapter 1.**

Note: As the segmentation is based on Past 12 Months Consumers only, all the respondents in the segments will have consumed shark fin soup. However, although Rejecters have consumed in the past year, it may have been occasionally and to please others. They are still Rejecters because they show a strong willingness to stop or decrease consumption in the future. The variables taken into account in the segmentation are the drivers and deterrents (based on question 9), which allow to differentiate Rejecters from the other segments.

Summary of Findings – Segmentation (based on consumers)



Rejecters

- Rejecters have either decided to stop consuming shark fin soup in the past year or intend to stop or decrease their consumption in the future. Their past consumption is mostly driven by social pressure.
- Their past consumption was occasional and “passive”: They mostly consumed at wedding banquets or family reunions (in CN), mostly driven by social pressure (related to word of mouth), tradition and influenced by the elderly.
- They are the most concerned about the environmental consequences of shark finning, i.e., their main deterrents are related to conservation and cruelty, and the message on extinction strongly resonates amongst them.
- They are ready to support campaigns and are the most likely to repost messages on social media to do so.

Summary of Findings – Segmentation (based on consumers)



Persuadable Consumers

- They represent the largest segment of consumers in all markets, except in Taiwan. Their past consumption is mostly driven by tradition (and social pressure).
- They are mostly occasional consumers, and have consumed shark fin soup at weddings and at restaurants (or at friends reunions in CN).
- Seven in ten intend to consume less shark fin soup in the future.
- While peer pressure and tradition are their main drivers of consumption, they also consume because they appreciate the “good” taste of shark fin soup.
- The message on extinction strongly resonates amongst them, and they mostly trust the government to deliver messages but are also sensitive to word of mouth (from family and friends).

Summary of Findings – Segmentation (based on consumers)



Diehard Consumers

- Their past consumption is mostly driven by the unique and exclusive aspects of shark fin soup.
- Shark Fin Soup Attractiveness Index is high for this segment, esp. in Mainland China where the Index is 5.15 vs. 4.45 in Singapore.
- They are active consumers and have various occasions of consumption, either social (wedding, friends reunions, etc.) or they choose purposefully to consume (i.e., order at restaurants for themselves).
- Their dominant impressions on shark fin soup consumption are drivers of consumption, i.e. health benefits, culinary aspects and tradition.
- Their leading deterrents are conservation, the legality of shark fin consumption and practical culinary barriers (hard to cook).
- The message on extinction has less impact on them, as they prefer the message on animal cruelty or luxury/status.

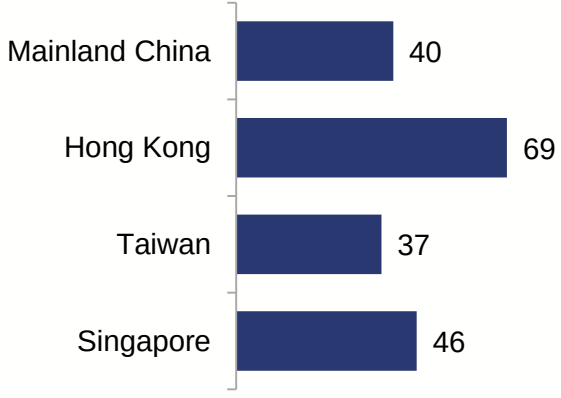
Summary of Findings – Consumption and Index

Past 12 months claimed consumption of shark fin soup vs Shark Fin Soup Attractiveness Index

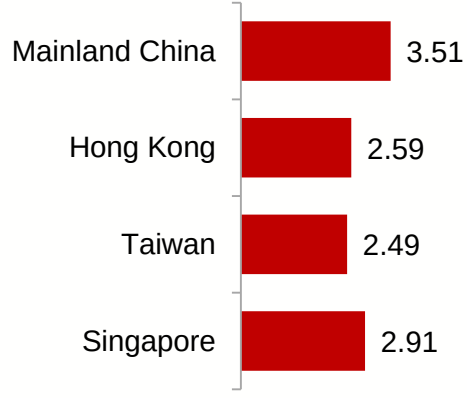
The past consumption and the Shark Fin Soup Attractiveness are two different metrics. The past 12 months consumption is based on the direct answers of the respondents to the past consumption question, while the Attractiveness Index is based on a model which includes past and future consumption, recommendation, etc. It is a 'predictive score'.

The comparison of the past 12 Months claimed consumption and the Shark Fin Soup Attractiveness Index shows some differences within markets: Past consumption is outstanding in Hong Kong compared to the other markets, however the Attractiveness Index is relatively low and below that of Mainland China and Singapore. There are various reasons that can lead to these differences, such as purchase power (i.e. consumers want to consume but can't always afford it), social pressure (see the chapter on drivers: we can observe that the markets where social pressure is strongly linked with past consumption, such as Hong Kong, have a low ratio between consumption and attractiveness, on the contrary to Mainland China) or consumers own choice to reduce their consumption.

Past 12 Months Consumption (%) by Market (Total Sample)



Shark Fin Soup Attractiveness Index by Market (Total Sample)



Q2/Q2a. In the past 12 months, have you eaten anything of the following, even if only once? Shark fin soup – **Weighted data**

Base: Total General Population Representative Sample, *n*=3543 in Mainland China, *n*=859 in Hong Kong, *n*=1541 in Taiwan, *n*=1156 in Singapore

Summary of Findings

Shark Fin Soup Past and Future Consumption

- **The Shark Fin Soup Attractiveness Index reflects the importance and persistence of consuming shark fin soup:**
  - It is highest among the 55+ age group in Hong Kong, Taiwan and Singapore, reflecting the importance of tradition for the elders. In Mainland China, attractiveness is higher among the 35-44 age group, potentially driven by family/friends' life events (wedding banquets) and business occasions.
  - Shark fin soup is slightly more attractive to consumers with low/middle education vs those with higher education.
- **The incidence levels observed in this survey are similar to other incidence surveys**:
  - In Hong Kong, close to nine in ten respondents have ever consumed shark fin soup, and seven in ten consumed it in the past 12 months. In other markets, around four in ten have consumed shark fin soup in the past 12 months.
  - Consumption is mostly driven by the high-education consumers (except in Taiwan) - although the low-/middle-education consumers are the ones with the highest attractiveness Index scores - and by consumers aged 55+. Consumption of shark fin soup is not gender-specific, except in Mainland China where the past 12 months incidence is significantly higher among females (45%) versus males (36%).
  - **Young people aged 18-24 have a significantly lower past 12 months consumption** vs other age groups in all markets. They are characterized by hyper-social connectivity, i.e., they have a high number of online contacts and interactions.
- Among those who claim that they ever consumed shark fin soup in the past, over half have decided to stop, except in Hong Kong where 44 percent decided to stop. Most of the decisions to stop have been taken in the past year. The main reason for deciding to stop is conservation/shark protection.
- The most persistent (Diehard) consumers are in Mainland China. Besides having the highest frequency of consumption, six in ten expect to consume shark fin soup at the same frequency or more often in the future in Mainland China.

Summary of Findings

Shark Fin Soup Consumption Behavior: Active vs Passive Consumers

- **Frequency of consumption differs between Hong Kong, Taiwan POC, Singapore (infrequent consumers) and Mainland China (more frequent consumers):** Although past 12 months incidence is significantly higher in Hong Kong versus the other markets, these are mostly infrequent consumers (i.e., six in ten had only one occasion of consumption in the past 12 months), as opposed to Mainland China where consumers have more occasions of consumption (i.e., seven in ten consumed shark fin soup twice or more in the past 12 months).
- **Wedding (banquets) are by far the main occasion of consumption** of shark fin soup in Hong Kong, Taiwan and Singapore.
- **In Mainland China, consumers have more diverse and more numerous occasions of consumption of shark fin soup:** There are various occasions of consumption, mostly social ones (i.e., friends reunions, family events and at restaurants are the leading occasions). This confirms the different behavior of consumers in Mainland China.
- Overall, a majority of consumers **seldom actively take the decision* to include shark fin soup** in the meals that they help to organize in Hong Kong, Taiwan and Singapore, suggesting that a majority are passive consumers.
- **However, in Mainland China the portion of deciders is significantly larger:** Amongst the Past 12 Months consumers, close to half of them were the main decision-maker when including shark fin soup in banquets or meals. In other markets, the decision-makers vary more, i.e., the parents and wedding planner (reflecting the main occasion of consumption) also play an important role in the decision to include shark fin soup in a banquet or a meal.
- Although the consumers of shark fin soup in Mainland China intend to continue including this dish in menus in the next 12 months, a majority says that consumption should decrease. This opinion is shared in the other markets and indicates room for change.

**Note: Decision-makers on shark fin soup are defined as those who decide all of the time, or most of the time, to include shark fin soup in the meals that they help to plan or organize*

Summary of Findings

Drivers of Consumption

- The leading drivers of consumption of shark fin soup are predominantly related to **social pressure** (i.e., tradition, please the elders, I prefer not to eat but don't want to be embarrassed). These drivers mostly influence passive consumption.
- Active consumption is driven by the **unique and exclusive aspects** of shark fin soup, particularly its **taste and quality** and by **health-related drivers** (i.e., cures skin conditions) in Mainland China. This reflects a deterministic consumption (rather than opportunistic).
- **Younger people (18–24)** do not give as much credit to status or traditions than the other age groups.

Deterrents of Consumption

- The strongest opinions regarding shark fin soup consumption are negative views of consumption, i.e., deterrents.
- Among the statements surveyed, **Conservation** is found to be the strongest influencer of shark fin soup (non) consumption among past 12 months consumers, followed by **a government ban** and the **awareness of animal cruelty**.
- While serving a shark fin dish is perceived as a tradition, consumers also think that shark fin soup can **easily be substituted.**
- Together, these deterrents suggest a sense of urgency and indicate that consumers are aware that shark fin soup consumption is a direct threat to sharks.

Summary of Findings

Preferred Messages and Other Campaigns

- When consumers see a stimuli presenting different impactful pictures on shark finning, their main reaction is first to inform themselves on how shark fins are harvested.
- When presented with a list of messages, focused on either animal welfare, conservation or other negative drivers of change, consumers prefer by far the message on the topic of extinction.
- The message on animal cruelty also resonates among consumers, particularly in Taiwan.
- Past campaigns mentioning the banning of shark fin had the weakest impact in Hong Kong and Singapore. In Mainland China, claimed recall of these campaigns is relatively high, and this is particularly driven by the WildAid campaign, supported by the spokesperson Yao Ming, which had by far the strongest impact.

Communication

- In Hong Kong and Singapore, there is room to increase consumers' intention to support campaigns (four in ten are unsure or do not intend to support a campaign) versus over eight in ten in Mainland China and Taiwan.
- In all markets, the Government is the most trusted voice when it comes to delivering messages on shark protection. The other trusted messengers vary by market: in Mainland China, newscasters/journalists and academic/research institutions are also perceived to be trusted messengers, while popular figures/celebrities obtain the highest trust in Hong Kong and Taiwan.
- On the other hand, NGOs are less trusted as messengers, with trust in NGOs being particularly low in China.



3. Detailed Analysis

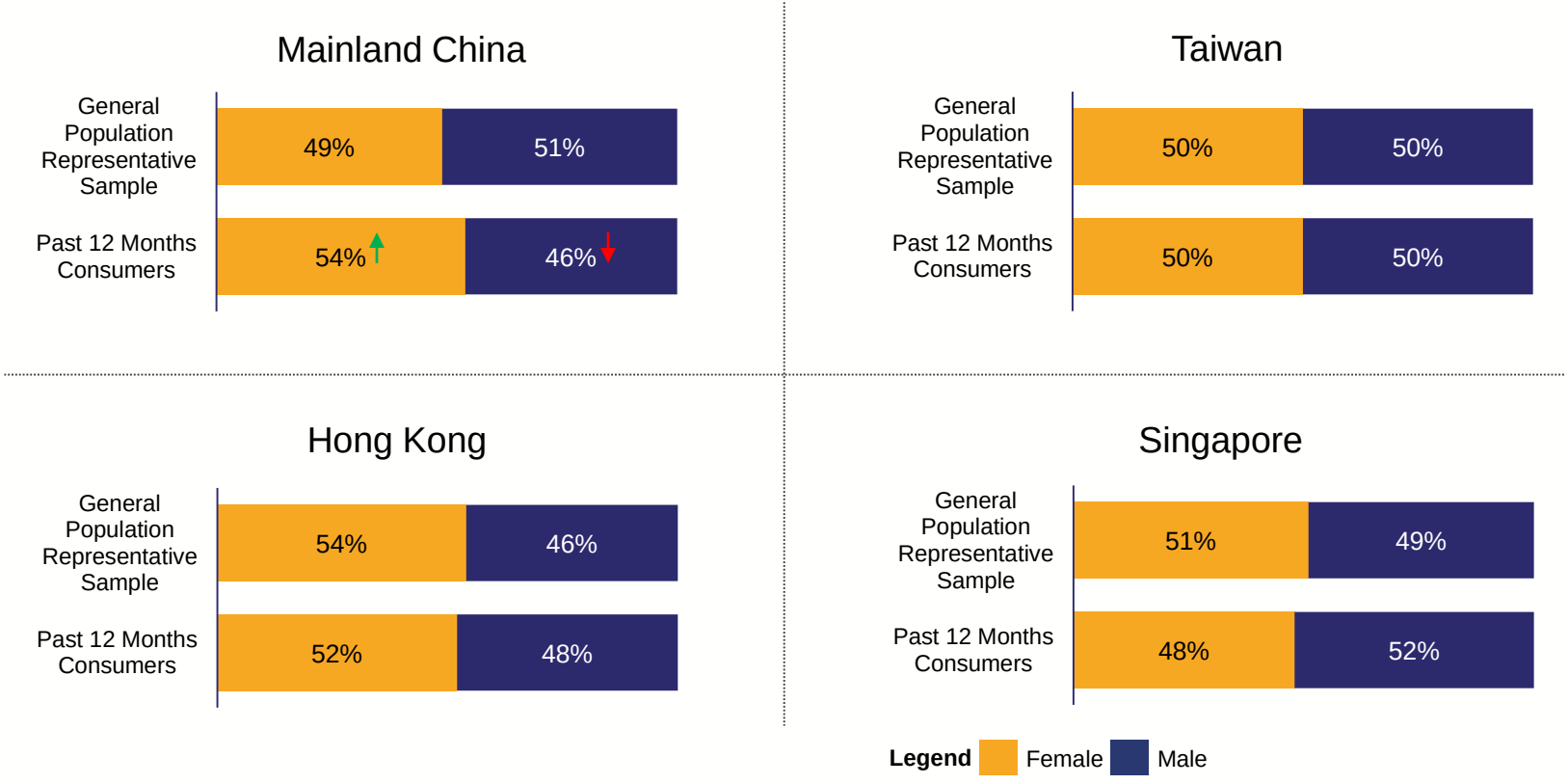
3.1 Profile

© AP Photo/ Kin Cheung

Respondents' Profile – Gender

General Population Representative Sample vs Past 12 Months (P12M) Shark Fin Soup Consumers Sample

Except in Mainland China where females are more represented amongst the past 12 months shark fin soup consumers, there are no significant differences in terms of gender repartition between the general population and the past 12 months shark fin soup consumers.



S2. What is your gender? **– Weighted Data**

Base: Total General Population Representative Sample, *n*=3543 in Mainland China, *n*=859 in Hong Kong, *n*=1541 in Taiwan, *n*=1156 in Singapore

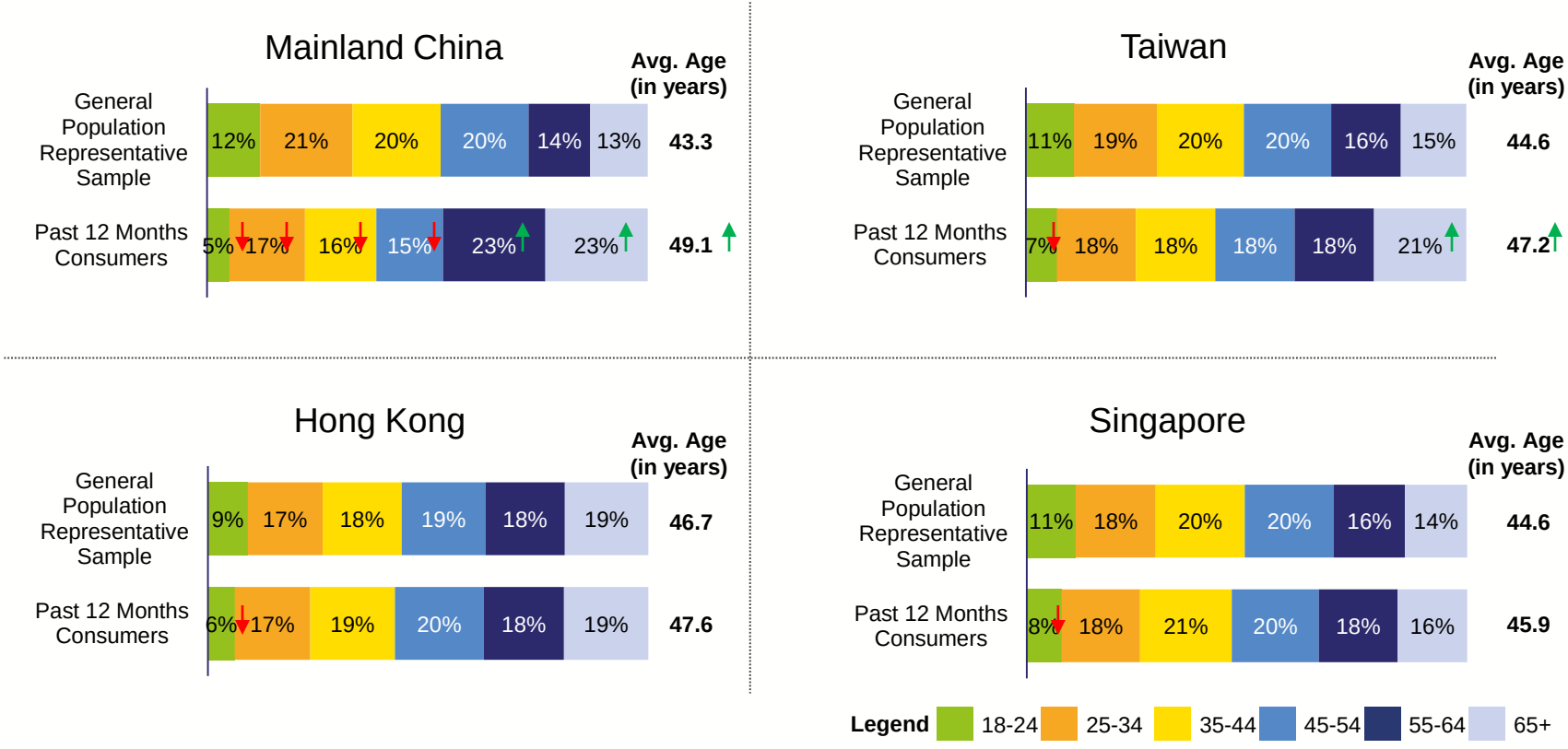
Base: Total Past 12 Months Shark Fin Consumer Sample, *n*=1425 in Mainland China, *n*=591 in Hong Kong, n=573 in Taiwan, n=528 in Singapore

↑ ↓ Statistically significant difference: higher / lower at 95% confidence level vs Total

Respondents' Profile – Age

General Population Representative Sample vs Past 12 Months (P12M) Shark Fin Soup Consumers Sample

On the contrary to gender, the age repartition is significantly different between the general population and the past 12 months shark fin soup consumers, who are generally older (particularly in Mainland China and Taiwan).



S3. Could you indicate your age? **– Weighted Data**

Base: Total General Population Representative Sample, n=3543 in Mainland China, n=859 in Hong Kong, n=1541 in Taiwan, n=1156 in Singapore

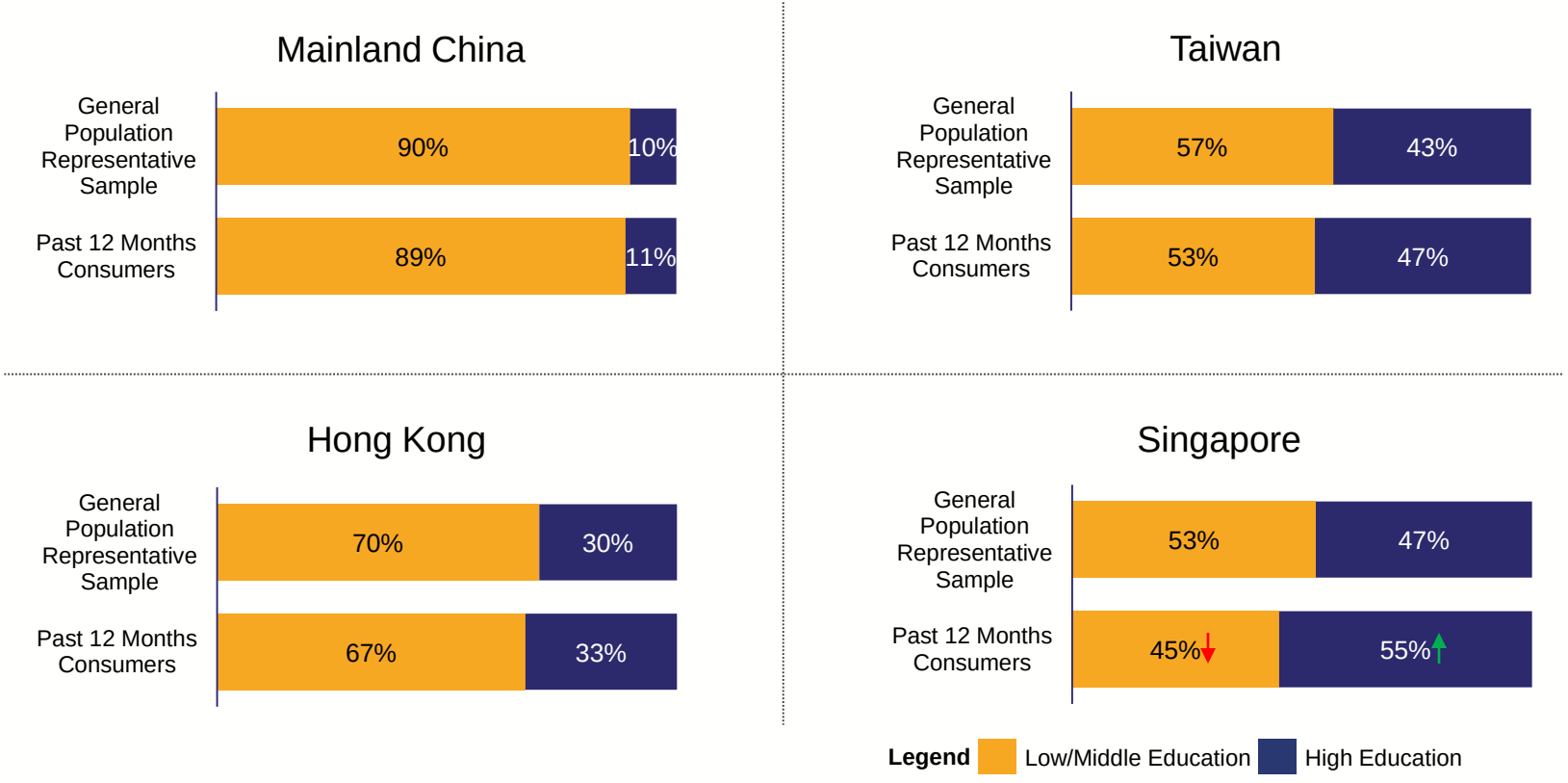
Base: Total Past 12 Months Shark Fin Consumer Sample, n=1425 in Mainland China, n=591 in Hong Kong, n=573 in Taiwan, n=528 in Singapore

↑ ↓ Statistically significant difference: higher / lower at 95% confidence level vs Total

Respondents' Profile – Education

General Population Representative Sample vs Past 12 Months (P12M) Shark Fin Soup Consumers Sample

Consumers with high education are directionally more represented amongst past 12 months shark fin soup consumer vs the general population, but this pattern is only significant in Singapore.



S4. What is your highest level of education completed? – **Weighted Data**

Base: Total General Population Representative Sample, *n*=3543 in Mainland China, *n*=859 in Hong Kong, *n*=1541 in Taiwan, *n*=1156 in Singapore

Base: Total Past 12 Months Shark Fin Consumer Sample, *n*=1425 in Mainland China, *n*=591 in Hong Kong, n=573 in Taiwan, n=528 in Singapore

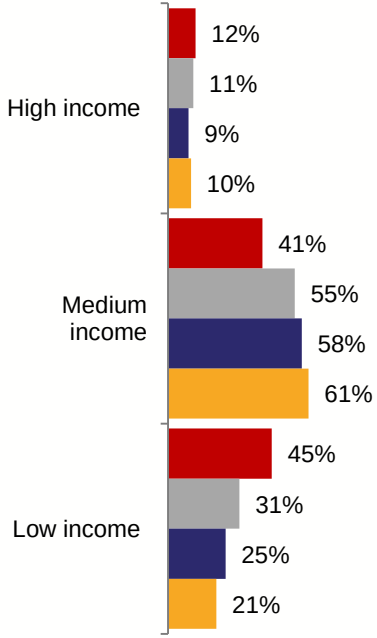
↑ ↓ Statistically significant difference: higher / lower at 95% confidence level vs Total

Respondents' Profile

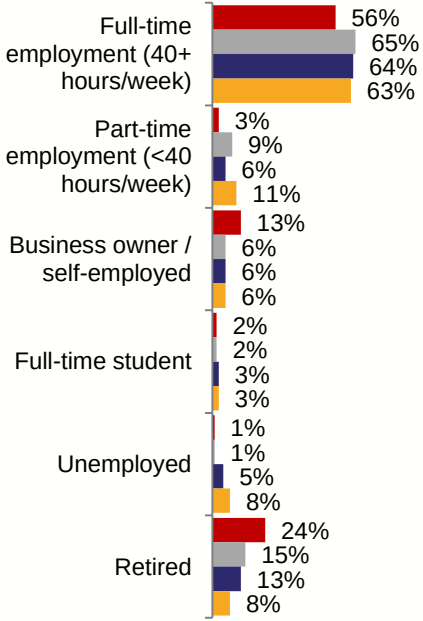
Past 12 Months Shark Fin Soup Consumers Sample

The profile of the Past 12 Months Shark Fin Soup Consumers is similar in Hong Kong, Taiwan and Singapore in terms of income, employment and travel. They mostly have a medium income (see income definition by market on page 10), are employed full time and travel occasionally to regularly. In Mainland China, this profile is more skewed towards low-income consumers who travel less often than in the other markets.

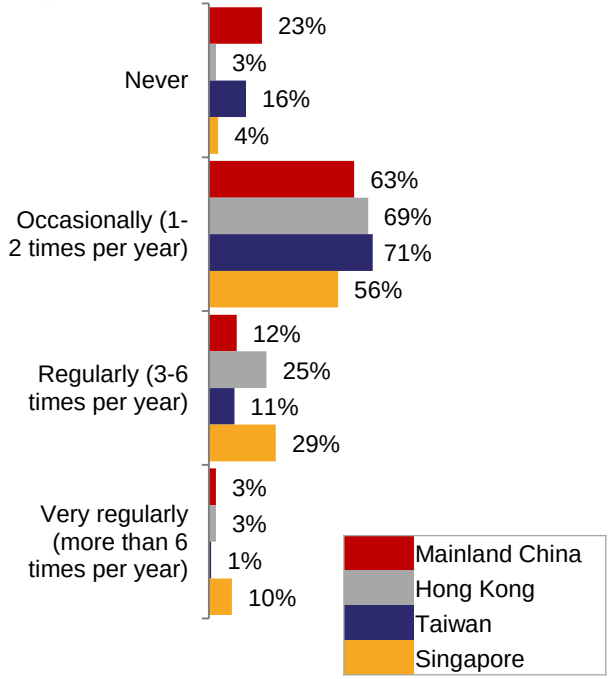
Monthly Personal Income (Grouping)



Employment



Travel Overseas



Q26. Please indicate the composition of your household? **– Weighted data**

Q27. Which of the following best describes your current employment situation? **– Weighted data**

Q28. How would you describe your travel behavior?**– Weighted data**

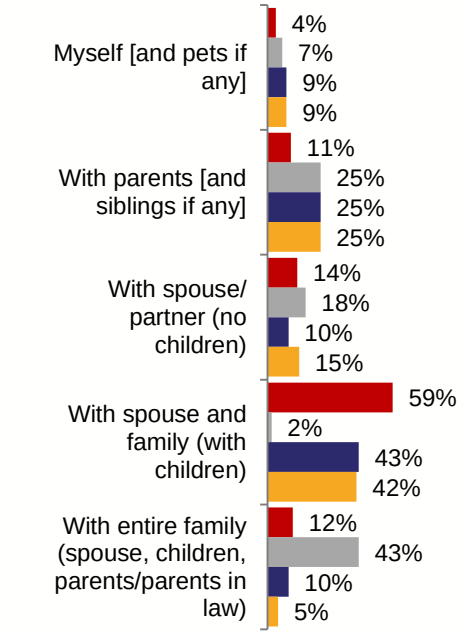
Base: Past 12 Months Shark Fin Soup Consumers: *n*=1425 in Mainland China, *n*=591 in Hong Kong, *n*=573 in Taiwan, *n*=528 in Singapore

Respondents' Profile

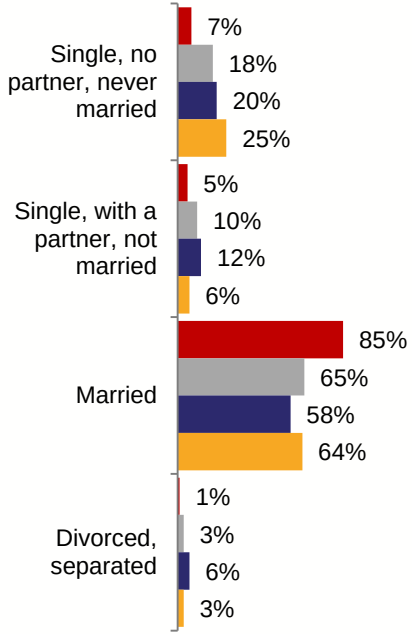
Past 12 Months Shark Fin Soup Consumers Sample

The profile of the Past 12 Months Shark Fin Soup Consumers is similar in Taiwan and Singapore in terms of household. They mostly live with their spouse and family, are married and four in ten have children. In Hong Kong, consumers tend to live more with their entire family (reflecting the housing challenges in this market), while in Mainland China, consumers mostly have one child (reflecting the former "one-child" policy).

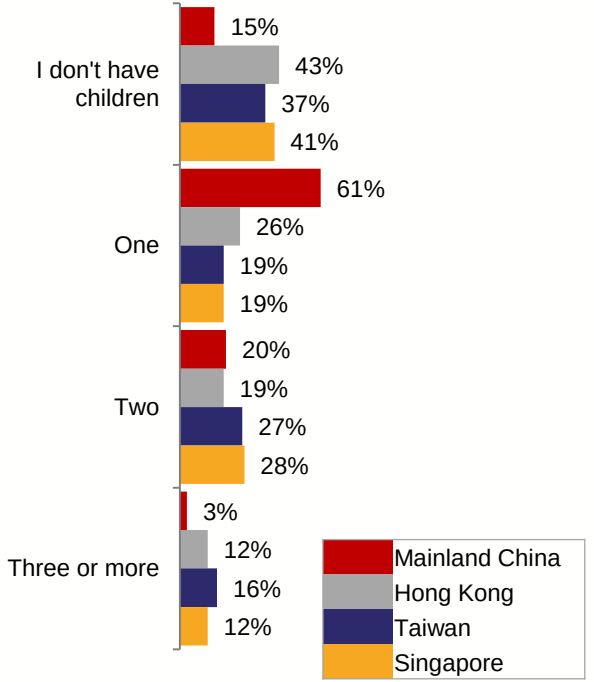
Household Composition



Marital Status



Number of Children



Q23. Please indicate your Monthly Personal Income (before taxes)?**– Weighted data**

Q24. Which of the following best describes your current marital status?**– Weighted data**

Q25. How many children do you have? **– Weighted data**

Base: Past 12 Months Shark Fin Soup Consumers: *n*=1425 in Mainland China, *n*=591 in Hong Kong, *n*=573 in Taiwan, *n*=528 in Singapore



3.2 Consumer Segments

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Segmentation Methodology

Segmentation Analysis Methodology

Attitudes and behaviors towards shark fin soup consumption are very diverse and interactive. They form unique combinations or patterns that should be specifically addressed in communication initiatives. In order to identify such patterns and explore distinct groupings of individuals behind each patterns, we have conducted segmentation analysis.

In this particular study, after exploring alternative segmentation approaches (e.g. Two-step clustering), we decided to proceed with **Latent Class Clustering** as it was able to deliver a more robust and actionable segmentation solution.

In order to develop the segmentation we have used **8 behavioral and 25 attitudinal indicators** (please find the details in the next slide).

Deciding on the number of segments

Segmentation analysis normally involves producing several solutions with different number of segments with further comparison between them. In this study, the robustness of the clustering solutions was tested using Discriminant Function Analysis, which tests the distinctiveness and predictability of the segments using the input variables.
Overall, 3-segment solution proved to be more robust being able to correctly identify segment members (90.4%) compared to 4-segment solution (86.4%).

Segmentation Methodology

Variables used in the segmentation analysis

The segmentation analysis is based on various variables. The 8 behavioral variables and the 25 attitudes towards shark fin soup used to design the segmentation are indicated in the table below and on the right hand side:

Behavioral Indicators	Question #
Past frequency	Q4
Desired frequency	Q5
Role in decision making	Q8
Likelihood to support a campaign	Q19
Attitude towards sharks	Q13
Awareness	Q14
Future consumption	Q11
Future recommendation	Q12

Attitudes towards shark fin soup (Question 9)
Serving a shark fin dish is a sign of respect
Serving a shark fin dish is a tradition in the Chinese culture
The tradition of shark fin soup will soon fade out
Shark fin soup is served to please the elders, like my parents or grandparents
Shark fin soup is served in order to impress business partners
Offering shark fin soup indicates wealth
Shark fin soup tastes great
Shark fin soup is tasteless
Shark fin has a special texture that cannot be replaced by anything else
Shark fins contain high concentrations of mercury and other toxins
Shark fin dishes are troublesome to cook
Shark fins nurture and cure skin conditions
Shark fin soup in a set dinner can easily be substituted by something else of the same value
I would be disappointed if I am served a substitute dish instead of shark fin soup
Shark fins are harvested in a very cruel way
It is essential to protect sharks from extinction
When buying shark fin soup, quality is the most important
Often shark fin soup offered at restaurants are fake, i.e. do not contain shark fins
Eating shark fin soup brings luck and longevity
Shark fin soup enhances manliness and sex drive
A government ban on shark fin harvesting is absolutely necessary
People I respect have stopped eating shark fin soup altogether
I don't particularly like eating shark fin soup but I do so to please others
Serving my guests shark fin soup in banquets makes me look good.
When shark fin soup is included in a banquet, I prefer not to eat it, but I don't refuse it not to create embarrassment

Shark Fin Soup Attractiveness Index

Shark Fin Soup Attractiveness Index: Definition

- For this survey, we constructed a customized index which we labelled the “Shark Fin Soup Attractiveness Index.”
- The Shark Fin Soup Attractiveness Index can be considered as a barometer or a measure of shark fin soup attractiveness.
- It allows us to customize strategies and messages for specific sub-groups, e.g., consumer segments, markets, age groups, etc.
- The Shark Fin Soup Attractiveness Index helps to see the overall picture, i.e., who are the most persistent shark fin soup consumers.

How Is it Compiled?

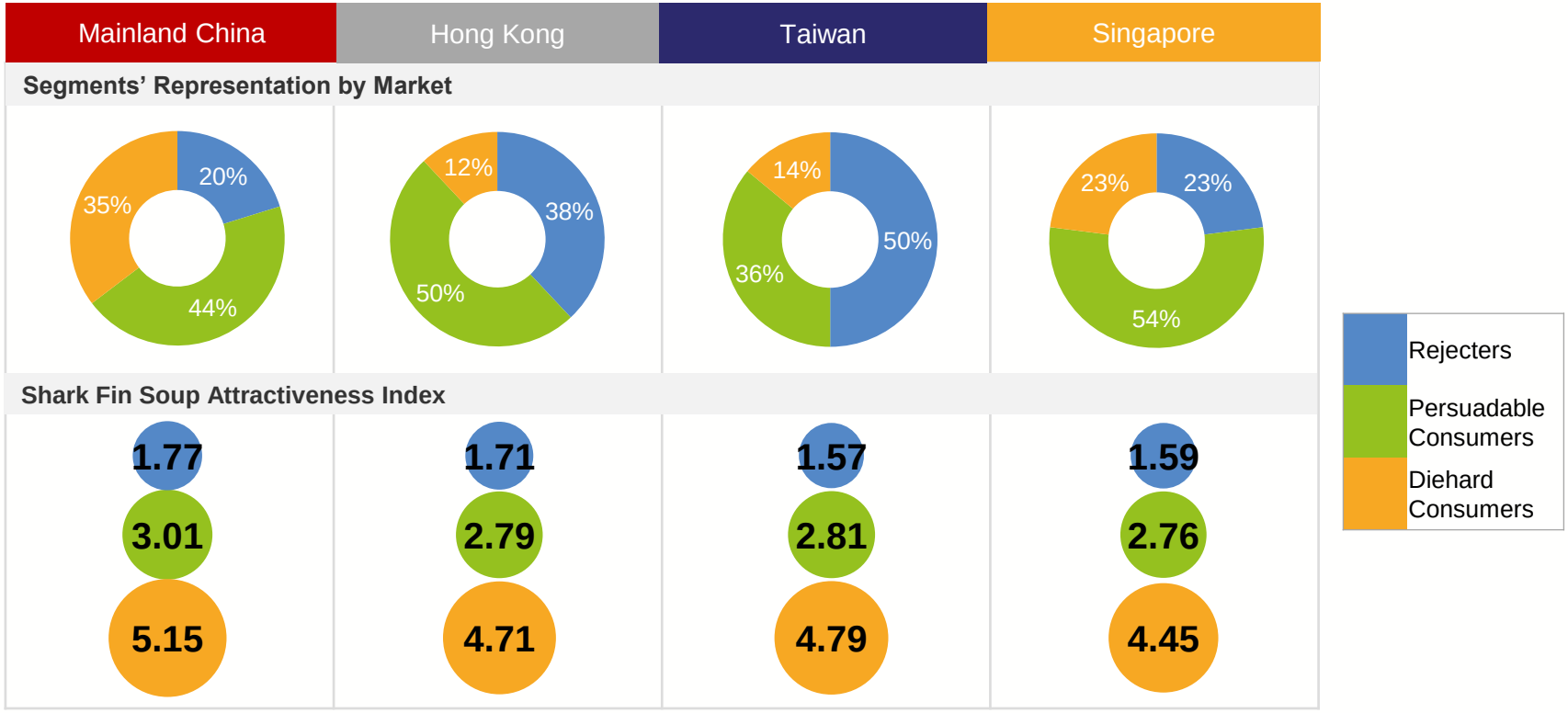
- The Index is an aggregate measure that distills several indicators down to a single number enabling quick comparisons across consumer segments, markets, age groups, etc.
- The structure of the Index was identified and tested using Path Modeling.
- The Shark Fin Soup Attractiveness Index was developed by reducing all attributes that were related to the consumption and drivers of demand of shark fin soup down to four dimensions:
    1. Consumption (i.e., past [1] and intended future consumption [2])
    2. Health Benefits [3]
    3. Uniqueness [3]
    4. Symbolic Value [3]
- It is a sum of these dimensions, based on a 10-point scale, with 1 being lowest (least attractiveness to consume shark fin soup) and 10 being the highest.

[1] Based on Q2/Q2a. In the past 12 months, have you eaten anything of the following, even if only once? Shark fin soup
[2] Based on Q1. Have you ever eaten any of the following foods? Shark fin soup
[3] Based on Q9. Now we will focus on shark fins and its consumption. On the following screens we will provide you lists of various statements. For each screen, please select the statement which describes your opinion the most, and the statement which describes your opinion the least.

Consumer Segments

Prevalence and Shark Fin Soup Attractiveness Index

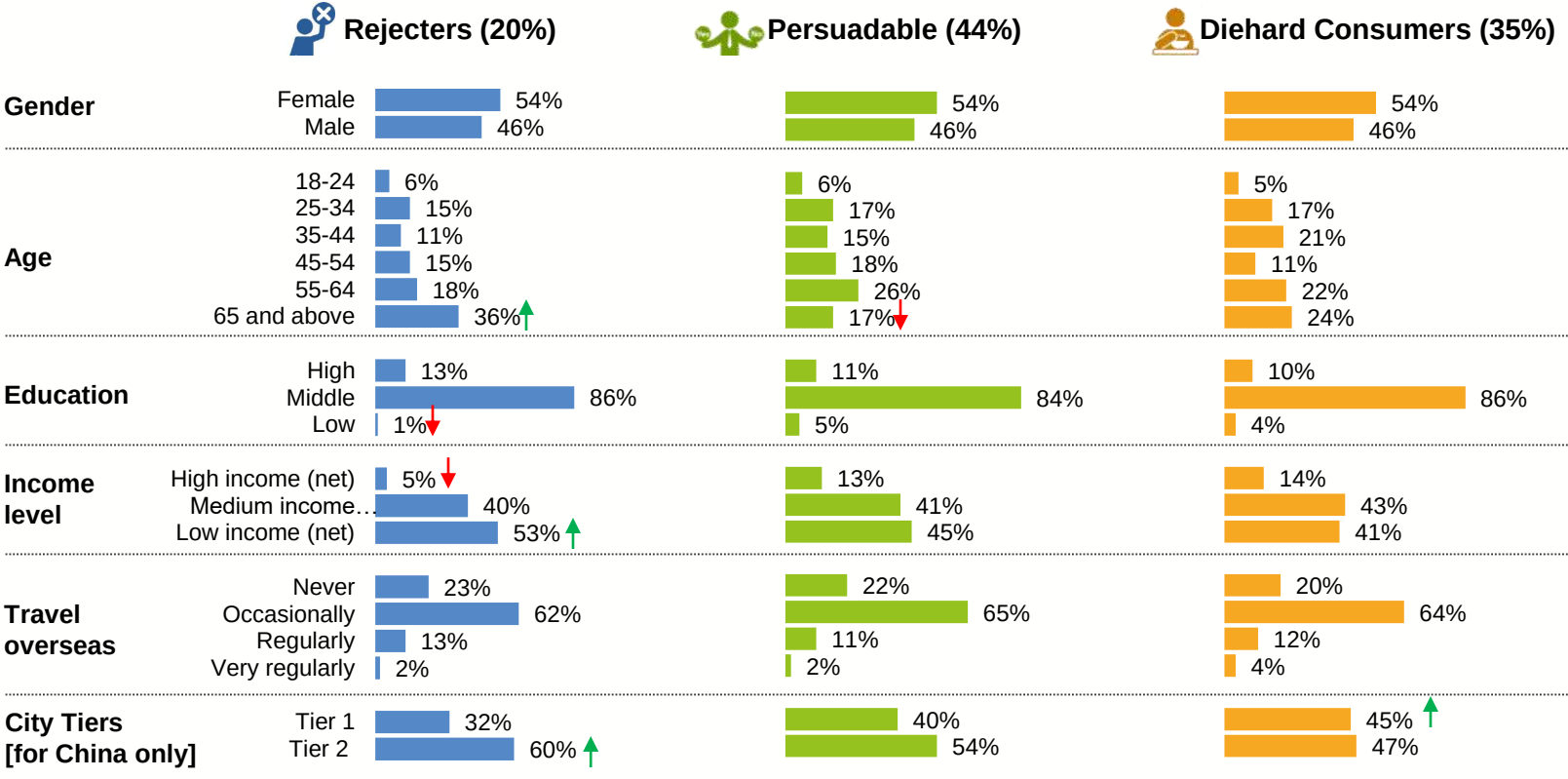
Diehard Consumers is the most represented segment in Mainland China and Singapore. In Mainland China, all the segments have a stronger Shark Fin Soup Attractiveness Index score versus the other markets.



Base: Segments: *n*=1425 in Mainland China, *n*=591 in Hong Kong, *n*=573 in Taiwan, *n*=528 in Singapore

Consumer Segments' Profile – Mainland China

In Mainland China, the consumer segments are not gender-specific. The main differences in their profiles are their age (i.e., Rejecters are older than the other segments) and their monthly personal income (i.e., Rejecters are more likely to have a lower income). Rejecters are also more represented in Tier 2 cities while Diehard Consumers are more skewed toward Tier 1 cities.



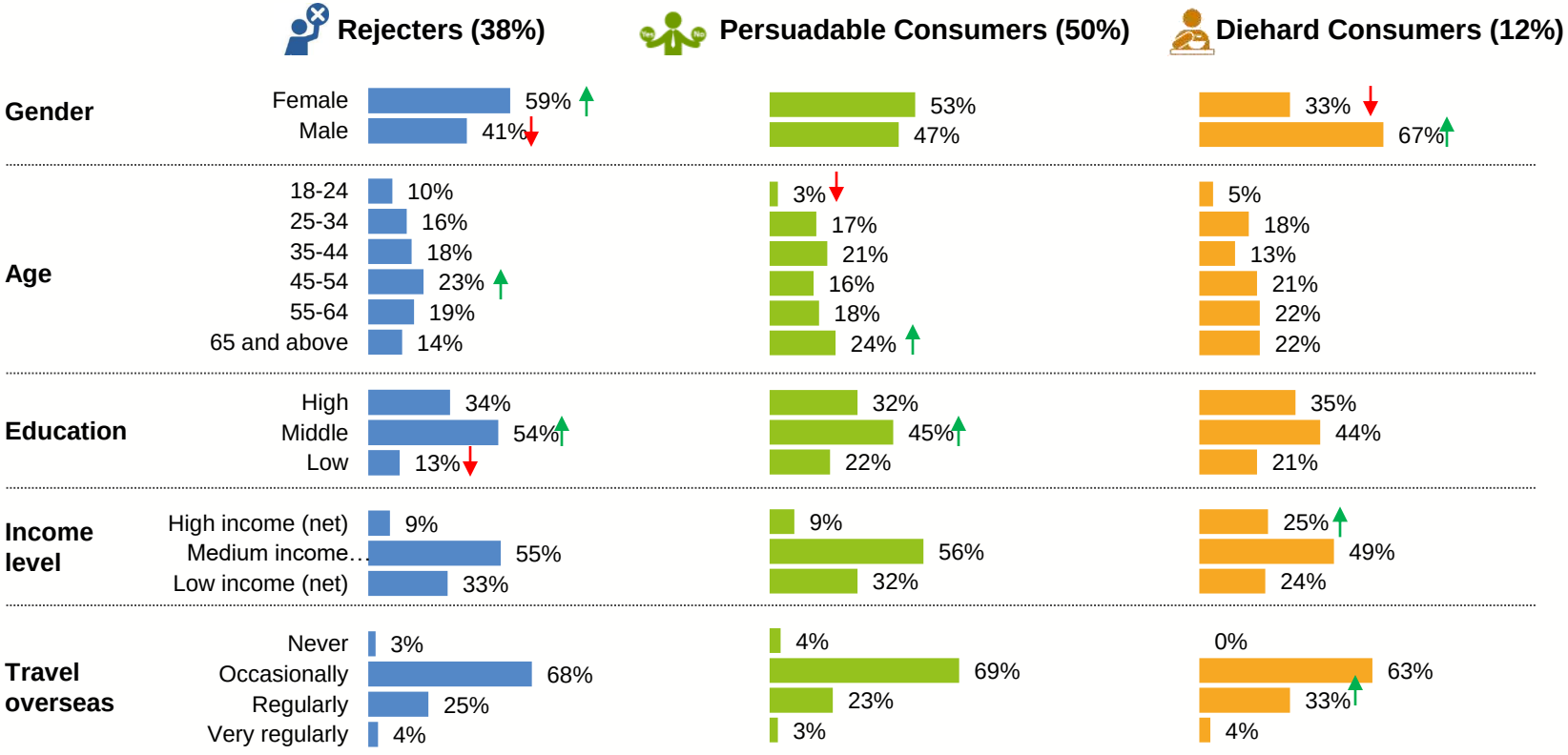
S1b. City of residence, S2. Gender, S3. Age, S4. Education, Q23. Monthly Personal Income, Q28. Travel Behavior **– Weighted data**

Base: Segments in Mainland China: Rejecters *n*=289, Persuadable Consumers *n*=625, Diehard Consumers *n*=502

↑ ↓ Statistically significant difference: higher / lower at 95% confidence level vs Total Past 12 Months Consumers

Consumer Segments' Profile – Hong Kong

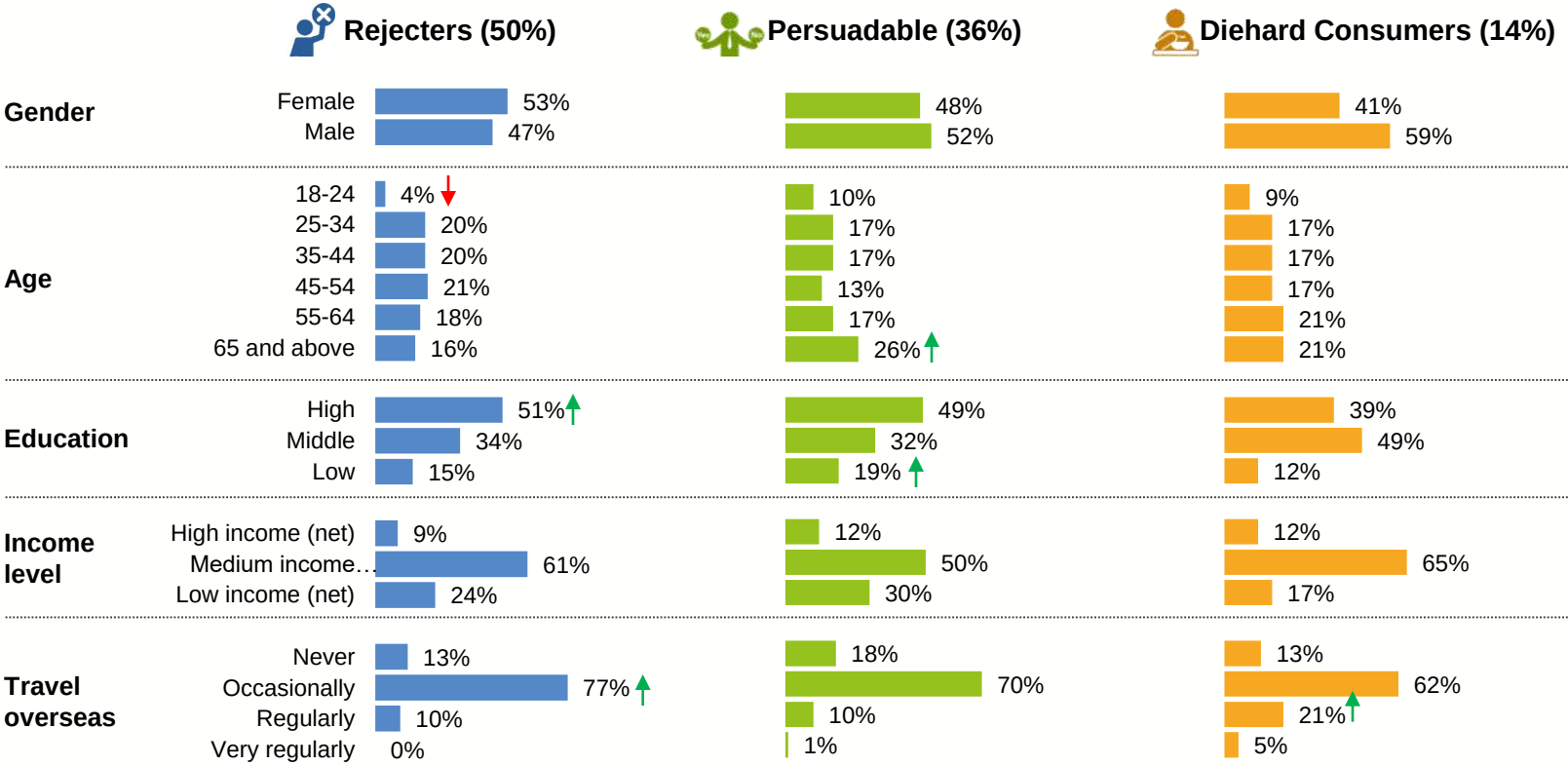
In Hong Kong, the consumer segments' profiles are relatively differentiated: Diehard Consumers are much more skewed towards males, with high income and who travel regularly versus the other segments. On the other hand, Rejecters are more female and have middle level of education.



S2. Gender, S3. Age, S4. Education, Q23. Monthly Personal Income, Q28. Travel Behavior **– Weighted data**
Base: Segments in Hong Kong: Rejecters *n*=208, Persuadable Consumers *n*=270, Diehard Consumers *n*=66
↑ ↓ Statistically significant difference: higher / lower at 95% confidence level vs Total Past 12 Months Consumers

Consumer Segments' Profile – Taiwan

In Taiwan, Diehard Consumers are (directionally) more skewed towards males, aged 55-64, with middle education, middle income and travel more often than the other segments. Rejecters are more female, more likely to be aged 25-44 years old and have middle income but high(er) education.



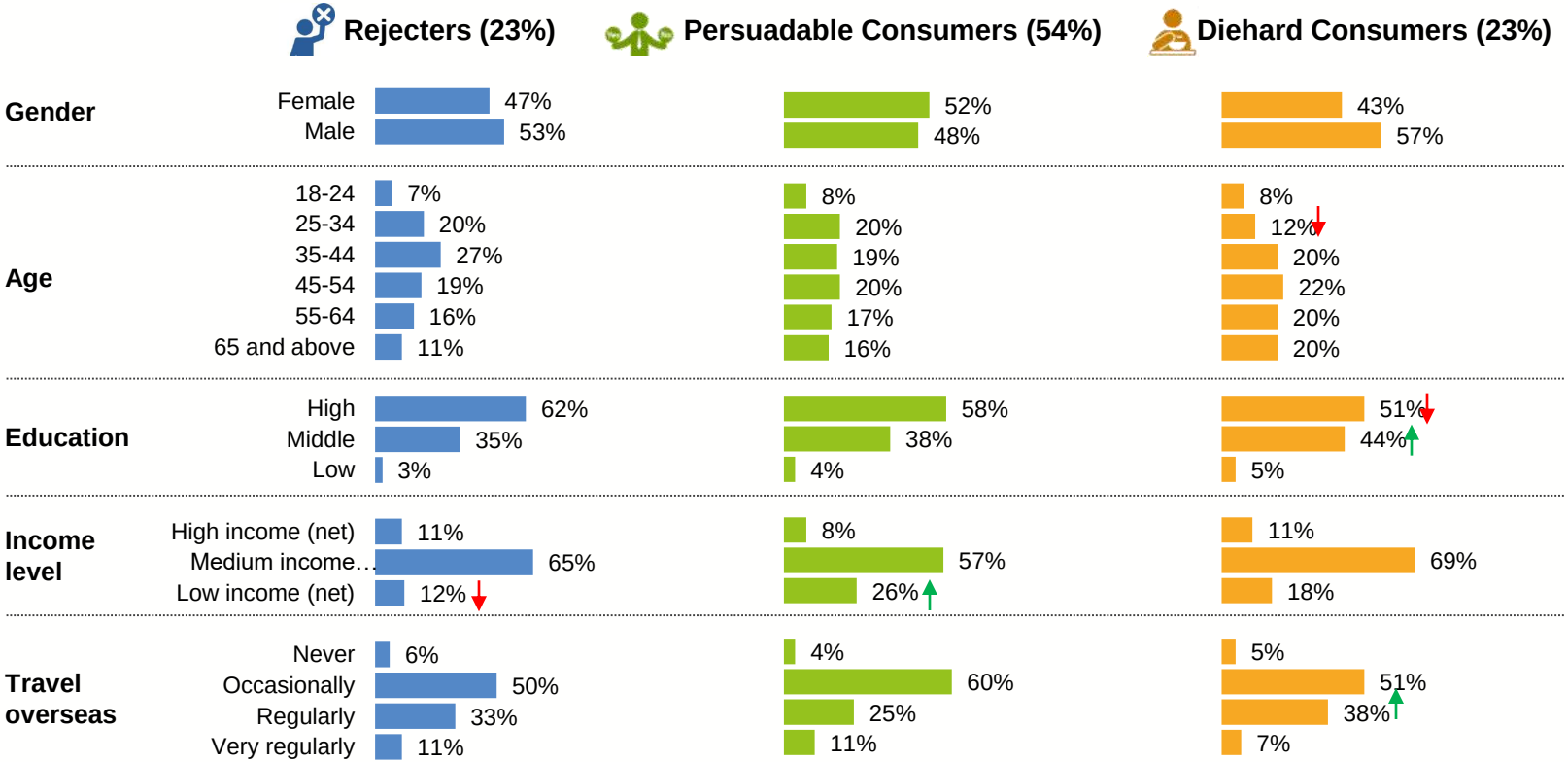
S2. Gender, S3. Age, S4. Education, Q23. Monthly Personal Income, Q28. Travel Behavior **– Weighted data**

Base: Taiwan Segments: *n*=274 Rejecters, *n*=199 Persuadable, *n*=78 Diehard Consumers

↑ ↓ Statistically significant difference: higher / lower at 95% confidence level vs Total Past 12 Months Consumers

Consumer Segments' Profile – Singapore

In Singapore, Persuadable Consumers represent more than half of the shark fin soup consumers. They are more skewed towards females of various ages, with middle/low income but higher education. On the other hand, Diehard Consumers are more skewed towards males, with middle income and middle education, aged above 45 and who travel regularly.



S2. Gender, S3. Age, S4. Education, Q23. Monthly Personal Income, Q28. Travel Behavior **– Weighted data**

Base: Singapore Segments: *n*=114 Rejecters, *n*=262 Persuadable, *n*=113 Diehard Consumers

↑ ↓ Statistically significant difference: higher / lower at 95% confidence level vs Total

Opinion on Shark Fin Soup Consumption – By Segment (Top 13)

In all markets, the strongest opinions of Rejecters and Persuadable Consumers on shark fin soup are deterrents to consumption, i.e., conservation and cruelty are the main views. While Rejecters also strongly agree that a government ban is necessary, Persuadable Consumers are more inclined to think that consuming shark fin soup is a tradition. Diehard Consumers mostly agree with drivers of consumption such as quality, taste and tradition.

Top 13 Opinions
MaxDiff Score (mean)

Most described opinions (Top 3)
Least described opinions (Bottom 3)

	Mainland China			Hong Kong			Taiwan			Singapore		
It is essential to protect sharks from extinction	9.14	5.66	2.66	9.09	5.10	1.71	9.12	5.84	3.01	9.03	5.22	2.25
Shark fins are harvested in a very cruel way	9.17	5.26	1.65	9.13	4.74	1.25	9.10	5.22	1.89	8.99	4.77	1.45
A government ban on shark fin harvesting is absolutely necessary	9.12	5.34	1.84	8.70	4.20	1.14	8.96	5.10	1.98	8.48	4.00	1.23
Shark fin soup in a set dinner can easily be substituted	6.01	3.24	1.67	7.43	3.86	1.78	7.25	4.14	2.01	7.10	4.06	1.93
When buying shark fin soup, quality is the most important	2.10	3.74	6.65	1.84	3.10	5.60	1.90	3.68	6.76	1.81	3.36	5.58
Shark fin soup tastes great	1.46	3.41	7.29	1.19	2.90	6.39	1.16	3.34	7.14	1.36	3.55	6.45
Serving a shark fin dish is a tradition in the Chinese culture	1.31	2.23	4.79	2.68	4.55	5.61	2.24	3.94	5.72	2.79	4.28	5.46
The tradition of shark fin soup will soon fade out	4.99	2.69	1.09	5.61	3.05	1.36	5.13	2.65	1.18	5.39	3.43	1.39
In a banquet, I prefer not to eat it, but I don't refuse not to create embarrassment	5.65	2.86	0.81	4.88	2.64	0.88	5.30	2.74	0.93	5.23	2.50	1.00
People I respect have stopped eating shark fin soup altogether	5.93	2.91	1.00	4.21	2.03	0.61	4.60	2.05	0.89	4.32	2.22	0.99
Often shark fin soup offered at restaurants are fake	3.93	2.28	1.07	4.16	2.85	1.38	5.04	3.30	1.30	4.06	2.31	1.22
Serving a shark fin dish is a sign of respect	0.76	2.56	5.34	0.65	2.88	5.46	0.60	2.46	5.01	0.62	2.15	4.55
Shark fin soup is served to please the elders, like my parents/grandparents	2.39	2.26	1.87	3.27	3.63	3.48	2.21	2.65	2.70	2.76	3.32	3.57

Q9. Now we will focus on shark fins and its consumption. On the following screens we will provide you lists of various statements. For each screen, please select the statement which describes your opinion the most, and the statement which describes your opinion the least. – **Weighted data**

Base: Past 12 Months Shark Fin Soup Consumers – Segments

Opinion on Shark Fin Soup Consumption – By Segment (Bottom 14-25)

In all markets, the strongest opinions of Rejecters and Persuadable Consumers on shark fin soup are deterrents to consumption, i.e., conservation and cruelty are the main views. While Rejecters also strongly agree that a government ban is necessary, Persuadable Consumers are more inclined to think that consuming shark fin soup is a tradition. Diehard Consumers mostly agree with drivers of consumption such as quality, taste and tradition.

Bottom 12 Opinions
MaxDiff Score (mean)

Most described opinions (Top 3)
Least described opinions (Bottom 3)

	Mainland China			Hong Kong			Taiwan			Singapore		
												
Shark fin dishes are troublesome to cook	2.88	2.42	1.82	3.14	2.08	1.63	3.41	2.65	1.88	2.70	2.14	1.60
Shark fin has a special texture that cannot be replaced by anything else	0.47	1.84	5.41	0.52	1.82	5.29	0.55	1.99	5.60	0.64	2.08	5.03
I don't particularly like eating shark fin soup but I do so to please others	3.72	2.26	0.79	3.56	2.88	1.51	3.33	2.43	0.99	3.30	2.38	1.21
Shark fins nurture and cure skin conditions	0.75	2.31	5.58	0.42	1.28	2.80	0.59	1.83	4.36	0.48	1.45	3.10
Shark fin soup is served in order to impress business partners	1.34	2.25	2.83	1.19	2.17	3.51	0.93	1.98	2.73	1.34	2.13	3.08
Serving my guests shark fin soup in banquets makes me look good	0.46	1.92	3.99	0.36	2.39	5.45	0.28	1.58	3.98	0.43	1.93	4.29
Shark fin soup is tasteless	2.98	1.46	0.38	3.94	2.12	0.66	3.88	1.72	0.44	3.30	1.41	0.53
Shark fins contain high concentrations of mercury and other toxins	3.17	1.48	0.55	3.07	1.53	0.68	3.55	1.85	0.69	3.00	1.61	0.75
Offering shark fin soup indicates wealth	0.22	1.51	3.24	0.30	1.85	4.35	0.29	1.43	2.88	0.36	1.56	3.49
Eating shark fin soup brings luck and longevity	0.14	1.17	4.25	0.11	0.68	2.70	0.10	0.79	2.79	0.15	1.05	3.02
I would be disappointed if I am served a substitute dish instead of shark fin soup	0.40	1.28	2.60	0.30	1.23	3.22	0.33	1.06	2.68	0.38	1.37	3.37
Shark fin soup enhances manliness and sex drive	0.19	1.05	2.78	0.13	0.56	1.82	0.16	0.65	1.62	0.14	0.69	1.59

Q9. Now we will focus on shark fins and its consumption. On the following screens we will provide you lists of various statements. For each screen, please select the statement which describes your opinion the most, and the statement which describes your opinion the least. – **Weighted data**

Base: Past 12 Months Shark Fin Soup Consumers – Segments

Messages

Extinction
An estimated 100 million sharks are killed every year with fins from up to 73 million used for shark fin soup, primarily to supply the markets in Asia. And 94.9 percent of shark species cannot maintain population stability if the harvest continues. The consumption of shark fins could lead to the extinction of sharks which have lived on this planet for over 400 million years.

Animal cruelty
Expensive fin soups are made of shark fins. During fishery activities, in order to stockpile the most shark fins, sharks are often captured, finned and abandoned. Sharks without fins cannot swim in the sea and will bleed to death.

Health
There is no scientific evidence that shark fins can be used to treat any medical condition. On the contrary, sharks contain high levels of mercury and other neurotoxins. Exposure to mercury – even small amounts – may cause serious health problems. Cooking does not eliminate mercury. In many countries, it is advised that pregnant women and children should avoid eating shark.

Illegality/extinction
Shark fin soup is widely consumed at wedding banquets as a high-end dish. Consumption of shark fin soup drives illegal fishing, which leads to a dramatic drop in shark populations and unsustainable species reproduction. Do not let your wedding day become the end of sharks.

Luxury/status
While including shark fin soup in a banquet seems to be a luxurious choice, it's an old-fashioned way to show people your respect and status. Nowadays, people respect those who are conscious on the environmental impact of their consumption.

Law [for China only]
The Chinese government has banned consumption of shark fin dishes in official banquets since 2012. Even if we are not government officials, we'd like to follow this ban because it is the right thing to do.

Test of Concept Messages – by Segment

The message on the topic of extinction is the preferred one for Rejecters and Persuadable Consumers, with a significant gap to the other messages in all markets. However, this message does not resonate as much amongst Diehard Consumers, who prefer the message on animal cruelty in Hong Kong and Taiwan, and that on Luxury/Status in Singapore.

Preferred Messages (Summary of Rank 1) (%)

	Mainland China			Hong Kong			Taiwan			Singapore		
Messages (% Rank 1)	Rejecters	Persuadable Consumers	Diehard Consumers	Rejecters	Persuadable Consumers	Diehard Consumers	Rejecters	Persuadable Consumers	Diehard Consumers	Rejecters	Persuadable Consumers	Diehard Consumers
Extinction	32%	34%	35%	38%	28%	17%	44%	32%	24%	46%	35%	19%
Animal cruelty	23%	15%	16%	21%	21%	24%	26%	26%	25%	29%	19%	20%
Illegality/ extinction	10%	12%	10%	16%	21%	21%	9%	12%	12%	9%	15%	18%
Health	16%	16%	19%	17%	18%	21%	18%	24%	24%	10%	15%	20%
Luxury/ status	7%	8%	7%	9%	12%	17%	2%	6%	15%	7%	17%	22%
Law	11%	14%	14%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Rejecters | Persuadable Consumers | Diehard Consumers

Top Preferred Message

Q16. Now we will show you a list of various messages. Which one of the following messages affects your intention to consume shark fin soup the most? – **Weighted data**

Base: Segments by market: *n*=1425 in Mainland China, *n*=591 in Hong Kong, *n*=573 in Taiwan, *n*=528 in Singapore

Who are the Rejecters?

Consumption Behavior

- Rejecters are no longer consumers of shark fin soup, i.e., they **stopped consuming** in the past year and **do not intend to consume in the future**.
- Their past consumption was occasional and “passive”: They mostly consumed at **wedding banquets or family reunions (in Mainland China),** mostly driven by social pressure, tradition and influenced by the elderly.

Opinion

- They are the most concerned about the environmental consequences of shark finning, i.e., their main deterrents are related to conservation and cruelty, and the message on extinction strongly resonates amongst them.
- They are ready to support campaigns and are the most likely to repost messages on social media to do so.

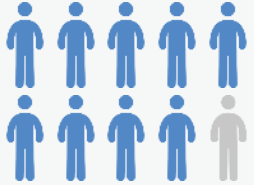
Main Occasions of Consumption



Wedding banquets

Business banquets/ meetings

Intention to Consume **Less** in the Future



9 out of 10

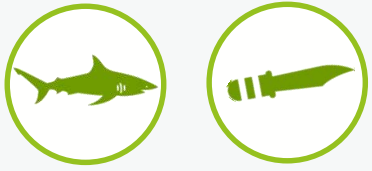
Main Drivers*



Tradition (in Chinese culture)

Social Pressure (Please elders, Not to create embarrassment)

Main Deterrents*



Conservation

Cruelty

** Please refer to the appendix for the detailed overview on drivers and deterrents by segment*

Who are the Persuadable Consumers?

Consumption Behavior

- **Persuadable Consumers are the largest segment** of consumers in all markets, except in Taiwan.
- They are **mostly occasional consumers**, and have consumed shark fin soup at weddings and at restaurants (or at friends reunions in Mainland China).
- Seven in ten intend to consume less shark fin soup in the future.

Opinion

- While **peer pressure and tradition** are their main drivers of consumption, they also consume because they appreciate the **"good" taste of shark fin soup.**
- The **message on extinction strongly resonates** amongst them, and they mostly trust the government to deliver messages, but are also sensitive to word of mouth (from family and friends).

Main Occasions of Consumption



Wedding banquets

At a restaurant

Intention to Consume **Less** in the Future



7 out of 10

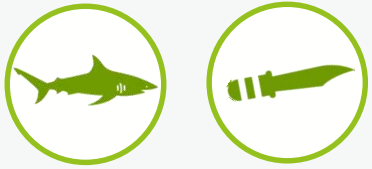
Main Drivers*



Tradition (in Chinese culture)

Uniqueness (Quality, Taste)

Main Deterrents*



Conservation

Cruelty

** Please refer to the appendix for the detailed overview on drivers and deterrents by segment*

Who are the Diehard Consumers?

Consumption Behavior

- The **Shark Fin Soup Attractiveness Index score is high** among this segment, especially in Mainland China.
- They are **active consumers**, and have various occasions of consumption, either **social** (wedding, friends reunions, etc.) or they **choose purposefully** to consume (i.e., order at the restaurant for themselves).
- They think shark fin consumption may not necessarily need to be decreased, even though a majority agrees to support future shark fin campaigns.

Opinion

- Their main drivers are related to **health benefits**, are **culinary** (i.e., related to the uniqueness of shark fin soup: “shark fin soup tastes good and has a special texture that cannot be replaced”) and **tradition**.
- Their main deterrents are **conservation**, the **legality** of shark fin consumption and **practical culinary** barriers (hard to cook).
- The message on extinction has less impact on them, they prefer the message on animal cruelty or luxury/status.

Main Occasions of Consumption



Family Events

At a restaurant

Intention to Consume Less in the Future



2 out of 10

Main Drivers*



Uniqueness (Quality, Taste)

Main Deterrents*



Conservation



Legal (Government ban)

** Please refer to the appendix for the detailed overview on drivers and deterrents by segment*



3.3 Shark Fin Soup Consumption Indicators

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Shark Fin Soup Attractiveness Index – by Market

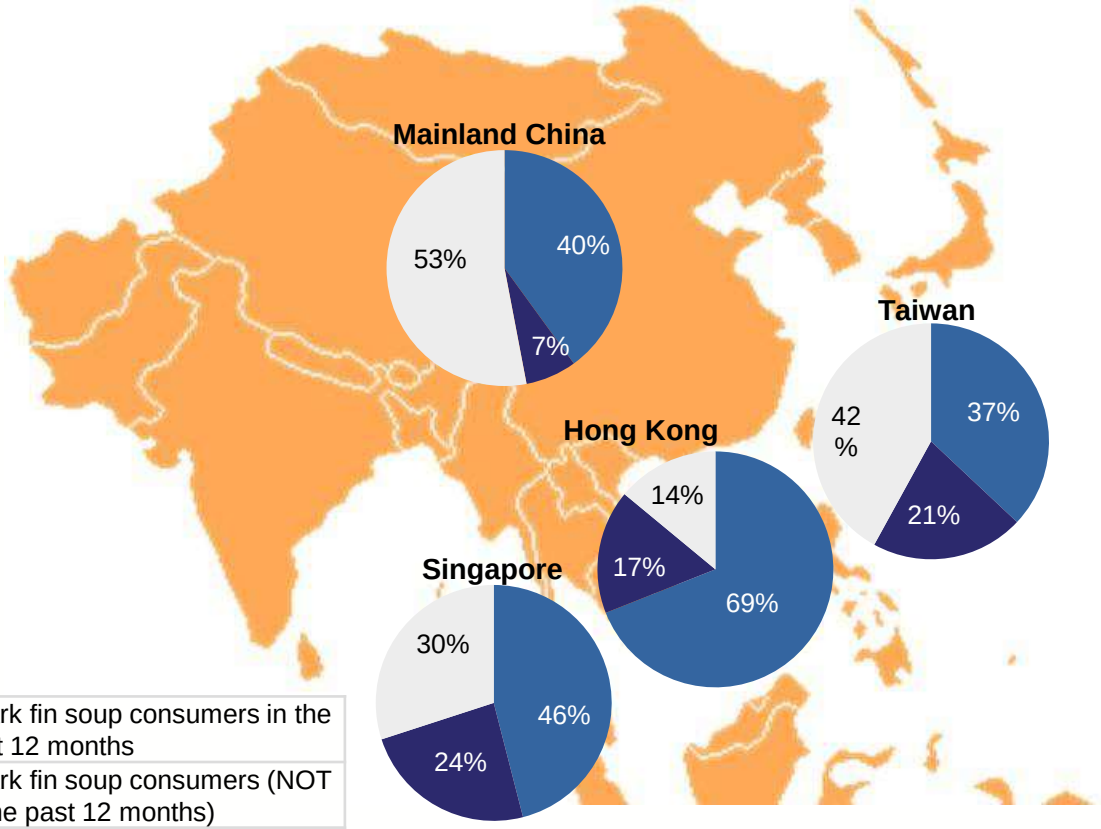
The Shark Fin Soup Attractiveness Index by age reflects the importance of this tradition for the elders, i.e., in most markets it is highest among the 55+ age group. In Mainland China, there is also a peak of attractiveness among the 35-44 age group, likely driven by family/friends' life events (wedding banquets) and business occasions. Shark fin soup is also slightly more attractive to the consumers with low/middle education.





	Mainland China	Hong Kong	Taiwan	Singapore
Index by Market (Total Sample)				
Total sample	3.51	2.59	2.49	2.91
By Age				
18-24	3.20	2.31	2.69	3.04
25-34	3.62	2.52	2.46	2.80
35-44	3.87	2.63	2.40	2.86
45-54	3.13	2.45	2.25	2.78
55-64	3.59	2.76	2.44	3.05
65 and over	3.44	2.69	2.76	3.02
By Education Level				
High	3.42	2.63	2.39	2.85
Middle	3.52	2.50	2.60	2.95
Low	3.60	2.78	2.51	3.15

Shark Fin Soup Consumption Incidence

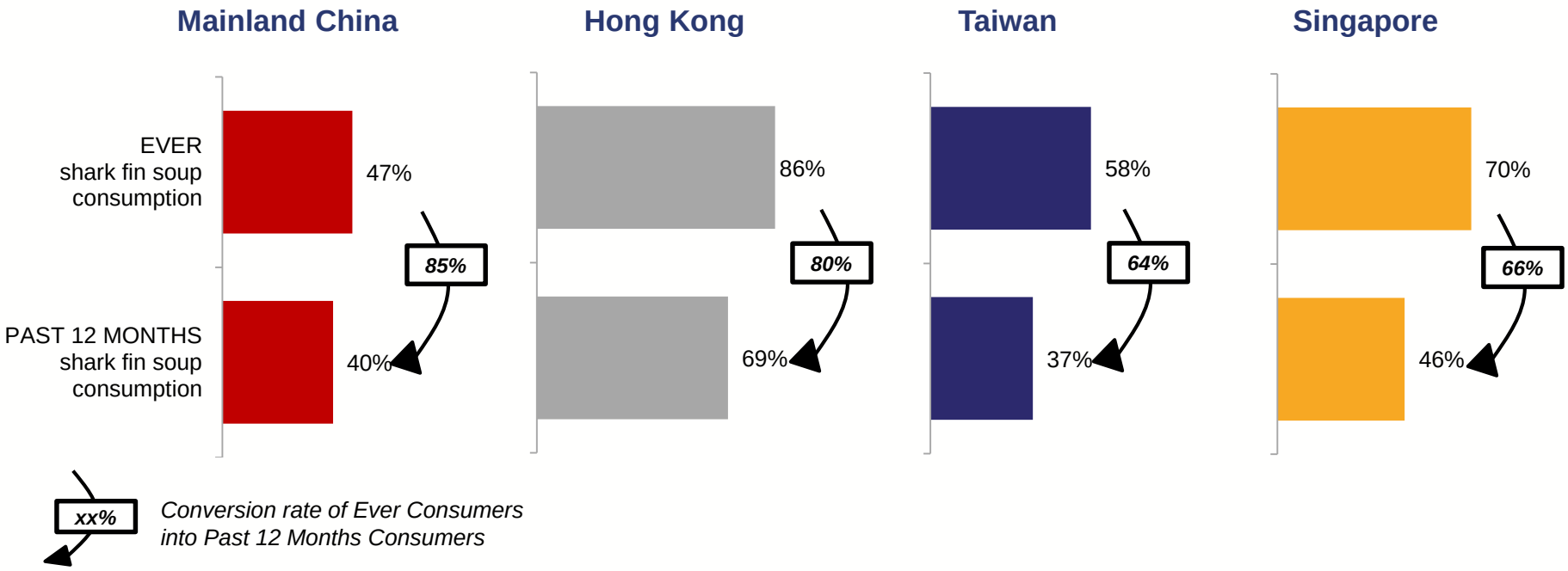


- Shark fin soup was **'ever'** consumed by a vast majority of consumers in Hong Kong.
- In Singapore, two in three claim to have ever consumed shark fin soup.
- A lower incidence is observed in Taiwan and Mainland China, with respectively 58 percent and 47 percent of consumers claiming to have ever eaten shark fin soup.

Q1. Have you ever eaten any of the following foods? Shark fin soup – **Weighted data**
Q2/Q2a. In the past 12 months, have you eaten anything of the following, even if only once? Shark fin soup – **Weighted data**
Base: Total General Population Representative Sample, *n*=3543 in Mainland China, *n*=859 in Hong Kong, *n*=1541 in Taiwan, *n*=1156 in Singapore
Note: Incidence levels not comparable with other surveys

Shark Fin Soup Consumption Incidence

In Hong Kong, and Mainland China, the conversion rate between those who ever consumed shark fin soup and those who consumed shark fin soup in the past 12 months indicates that consumption behavior remains similar over time. On the other hand, the lower conversion rate in Taiwan and Singapore suggests some behavior change in the past year or earlier.



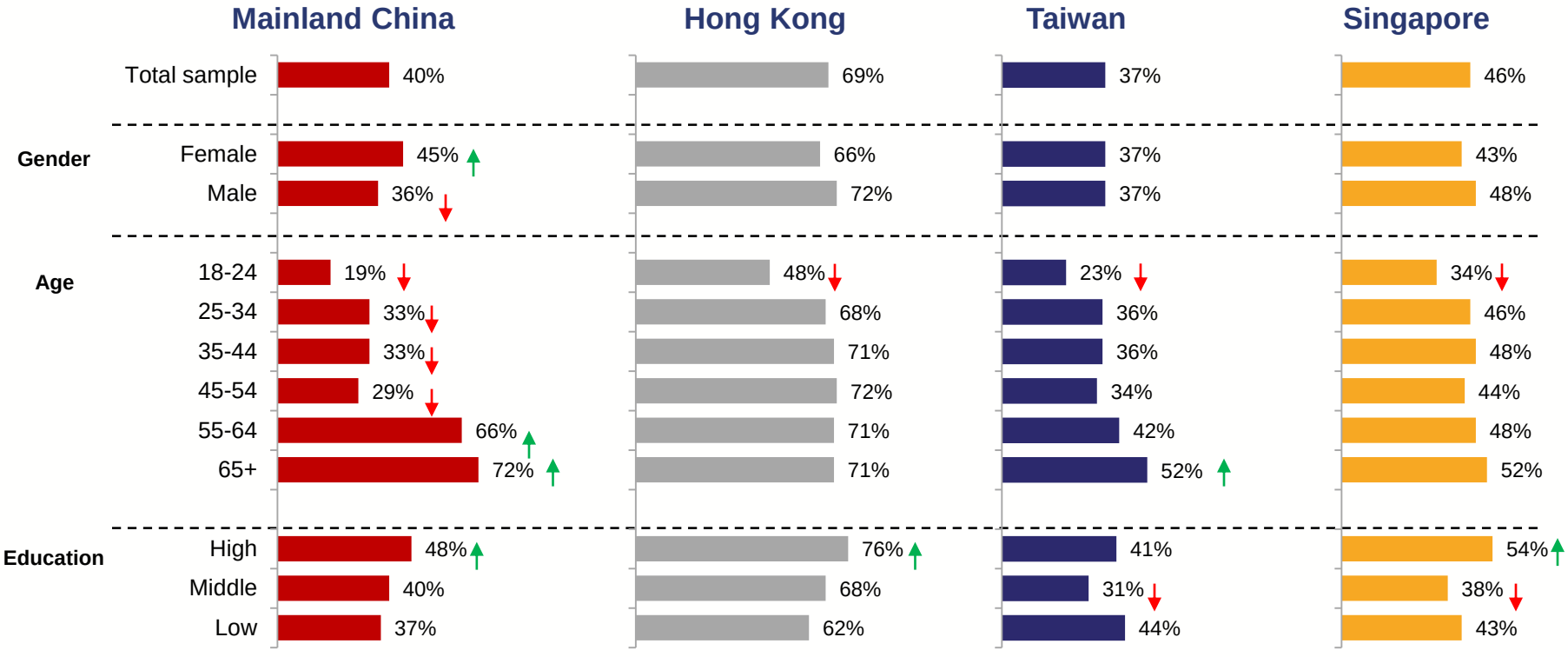
Q1. Have you ever eaten any of the following foods? Shark fin soup – **Weighted data**

Q2/Q2a. In the past 12 months, have you eaten anything of the following, even if only once? Shark fin soup – **Weighted data**

Base: Total General Population Representative Sample, *n*=3543 in Mainland China, *n*=859 in Hong Kong, *n*=1541 in Taiwan, *n*=1156 in Singapore. *Note: Incidence levels not comparable with other surveys*

Past 12 Months Shark Fin Soup Consumption

Overall, four in ten have consumed shark fin soup in the past 12 months, except in Hong Kong where seven in ten consumed in the past 12 months. This consumption is mostly driven by the high-education consumers (except in Taiwan), where attractiveness is higher among low-education consumers (see index) – and by consumers aged 55+ (particularly in Mainland China). Consumption of shark fin soup is not gender-specific, except in Mainland China where the incidence is significantly higher among females.



Q2/Q2a. In the past 12 months, have you eaten anything of the following, even if only once? Shark fin soup – **Weighted data**

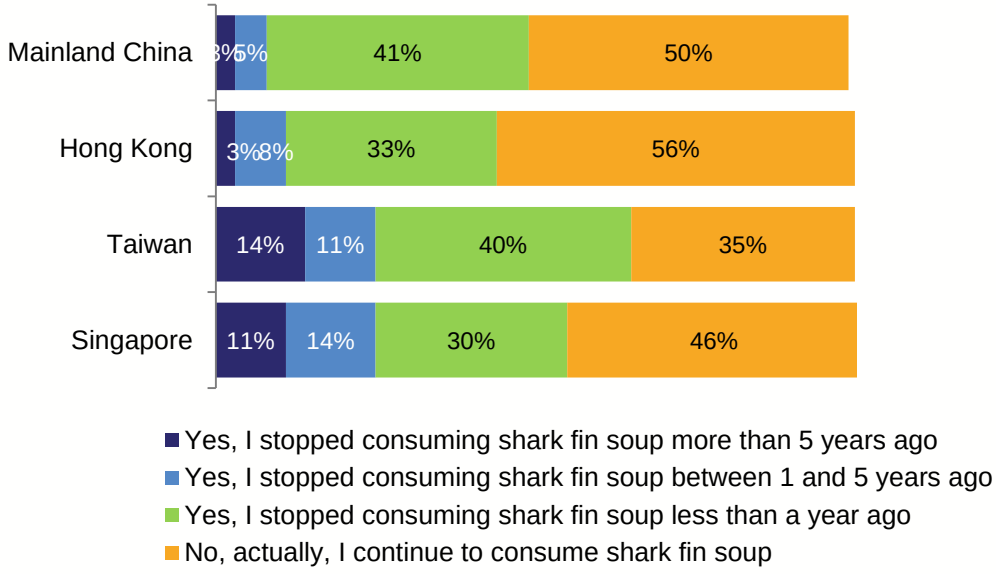
Base: Total General Population Representative Sample, *n*=3543 in Mainland China, *n*=859 in Hong Kong, *n*=1541 in Taiwan, *n*=1156 in Singapore

Statistically significant difference: higher / lower at 95% confidence level vs Total - *Note: Incidence levels not comparable with other surveys*

Shark Fin Soup Past Consumption

Among those who claim that they ever consumed shark fin soup in the past, over half have decided to stop, except in Hong Kong, where it is 44 percent. Most of these decisions to stop have been taken in the past year, indicating a recent significant change of behavior. The main reason for deciding to stop is by far conservation / shark protection.

Decision to Stop or Continue Consuming Shark Fin Soup (%)

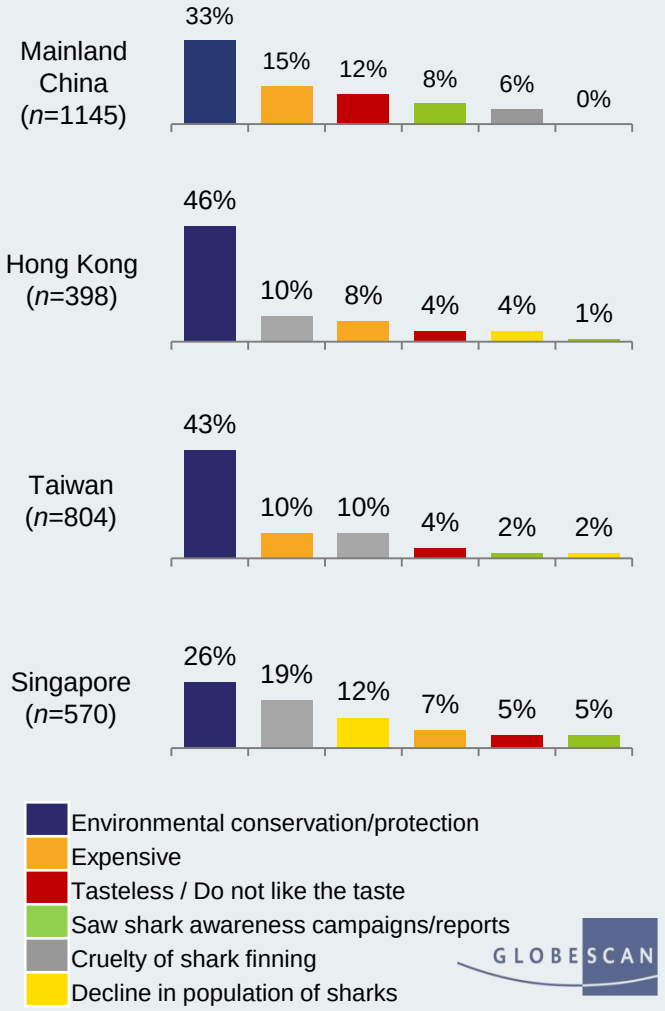


Q3a. You said that you consumed shark fin soup in the past. Have you stopped consuming shark fin soup?, Q3b. You said that you decided to stop consuming shark fin soup. What were the reasons for taking this decision? – **Weighted data**

Base: Ever Consumers of shark fin soup, *n*=1658 in Mainland China, *n*=740 in Hong Kong, *n*=891 in Taiwan, *n*=811 in Singapore

Reasons for Deciding to Stop Consuming Shark Fin Soup (Amongst the Options Provided)

(Among those who stopped consuming in the past)



3.4 Shark Fin Soup Consumption Behavior

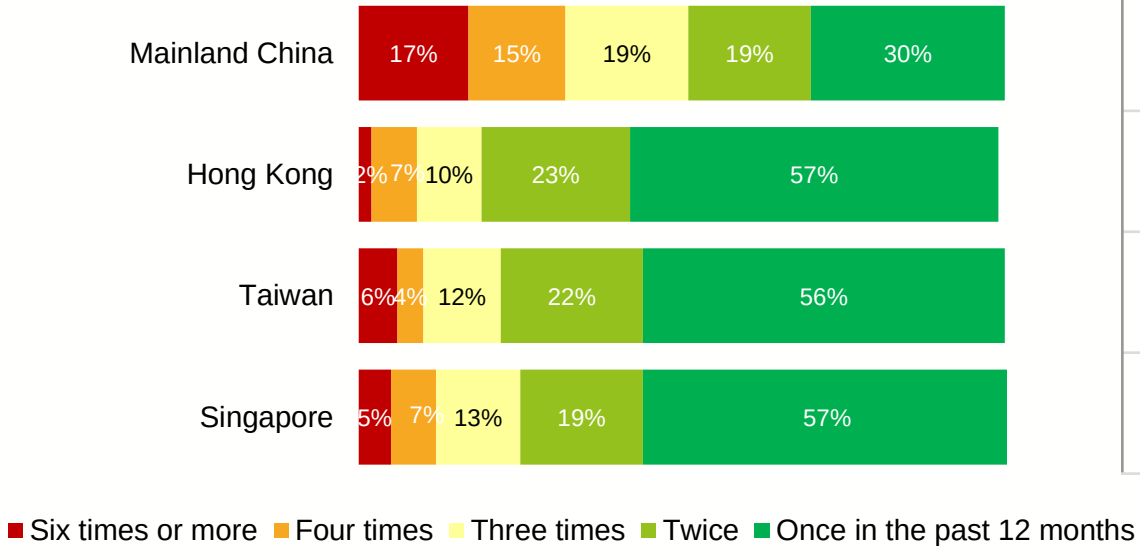


© Credit Paul Hilton/European Pressphoto Agency

Frequency of Consumption of Shark Fin Soup

While a vast majority consume shark fin soup occasionally in Hong Kong, Taiwan and Singapore (i.e., six in ten had only one occasion of consumption in the past 12 months), the frequency of consumption is different in Mainland China, with seven in ten who consumed shark fin soup two times or more in the past 12 months. This indicates that although past 12 months incidence is significantly higher in Hong Kong versus the other markets, these are mostly infrequent consumers, as opposed to Mainland China where consumers have more occasions of consumption.

Frequency of Consumption of Shark Fin Soup in the Past 12 Months



Occasional consumers (1-2 times)	Regular consumers (3+ times)	Avg. frequency (# times in past 12 months)
49%	51%	2.8
81%	19%	1.7
77%	23%	1.9
76%	24%	1.9

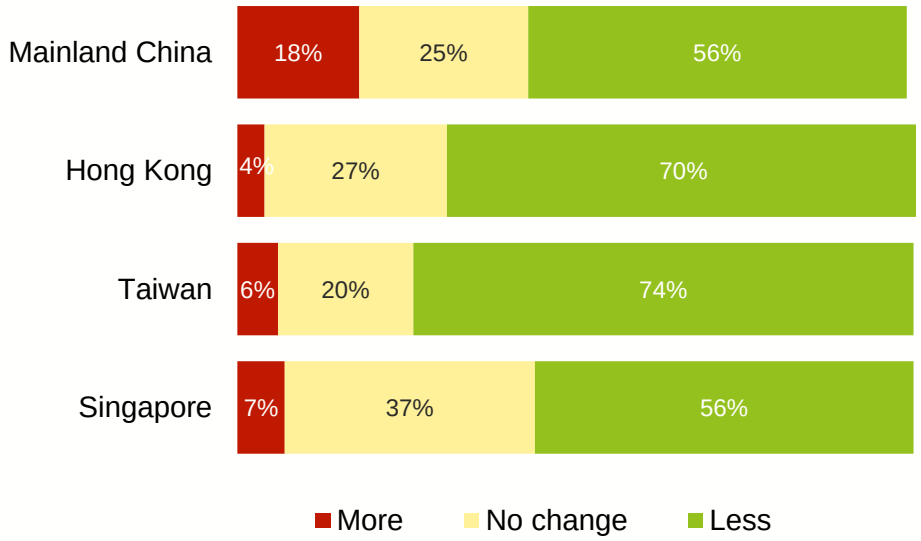
Q4. How often would you say you have meals including shark fin soup? – **Weighted data**

Base: Past 12 months shark fin soup consumers: *n*=1425 in Mainland China, *n*=591 in Hong Kong, *n*=573 in Taiwan, *n*=528 in Singapore

Frequency of Consumption of Shark Fin Soup

Seven in ten expects to actually consume less shark fin soup in the next 12 months in Hong Kong and Taiwan. Respondents in Singapore and Mainland China are more decided on their future consumption, with 44% in Singapore and 43% in Mainland China who expect to consume shark fin soup at the same frequency or more often than in the past 12 months.

Expected Change in Consumption of Shark Fin Soup in the Next 12 Months



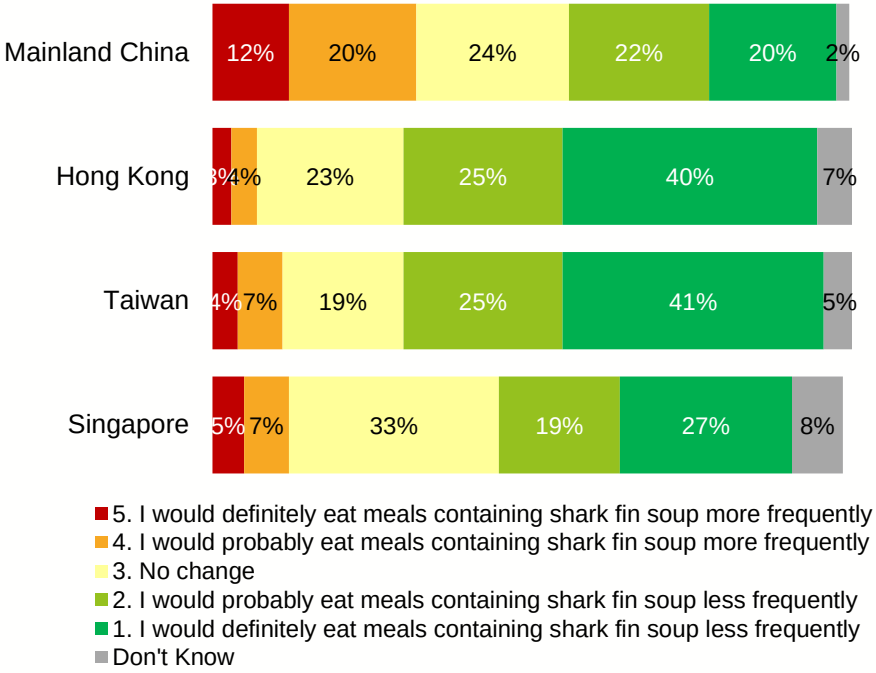
Q11. Thinking about the next 12 months, do you expect to eat shark fin soup more, less or the same number of times as in the past 12 months? – **Weighted data**

Base: Past 12 months shark fin soup consumers: *n*=1425 in Mainland China, *n*=591 in Hong Kong, *n*=573 in Taiwan, *n*=528 in Singapore

Future Consumption of Shark Fin Soup

A majority of consumers intend to eat less shark fin soup in the future in Hong Kong and Taiwan. In Singapore, one in three do not expect to change their behavior. The most persistent consumers are in Mainland China. Besides having the highest frequency of consumption, six in ten expect to consume shark fin soup at the same frequency or more often in the future in Mainland China. This confirms that Hong Kong and Taiwan have most potential to change, Singapore medium potential and Mainland China the least.

Future Intention to Consume Shark Fin Soup



Top-2-Box: "Would definitely/ probably eat **more** frequently"	Bottom-2-Box: "Would definitely/ probably eat **less** frequently"
32%	42%
7%	64%
10%	66%
12%	46%

Hong Kong and Taiwan have the highest propensity to reduce shark fin consumption, Mainland China the lowest.

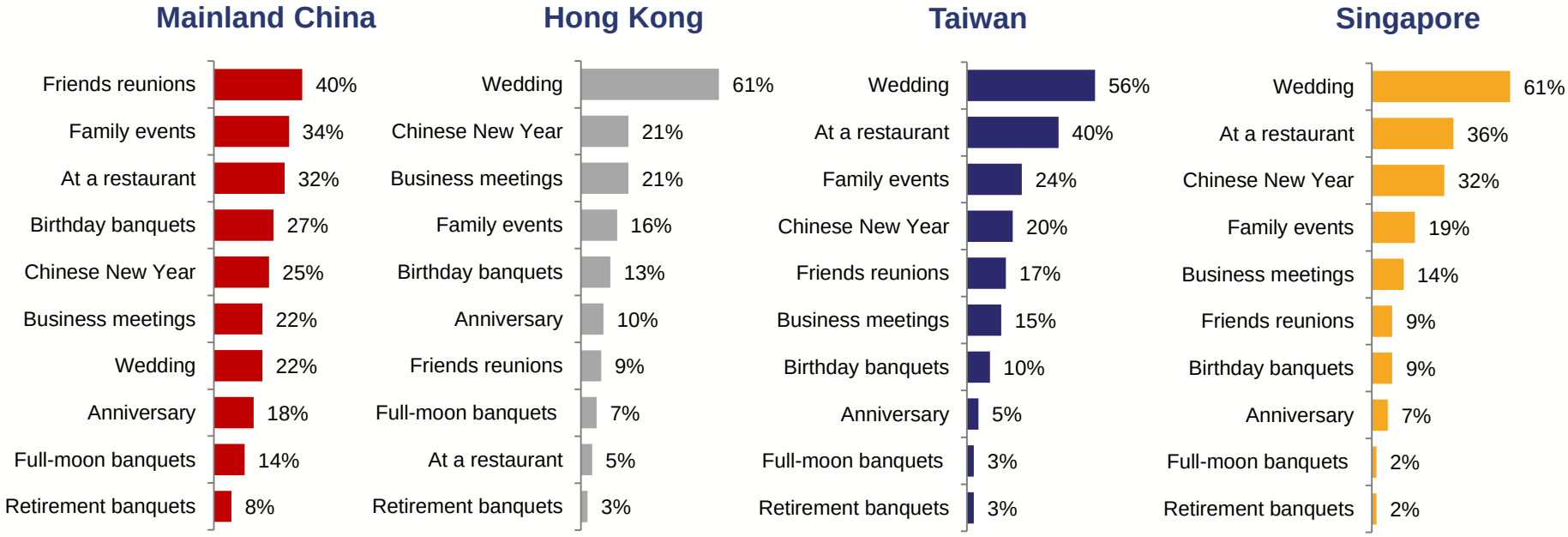
Q5. Would you choose to eat more frequently or less frequently any meal including shark fin soup if you had the opportunity? – **Weighted data**

Base: Past 12 months shark fin soup consumers: *n*=1425 in Mainland China, *n*=591 in Hong Kong, *n*=573 in Taiwan, *n*=528 in Singapore

Occasions of Consumption

While weddings (banquets) are by far the main occasions of consumption of shark fin soup in Hong Kong, Taiwan and Singapore, the occasions of consumption in Mainland China are more diverse (i.e., friends reunions, family events, at a restaurant are the leading occasions) and also more numerous on average. This confirms that the consumption behavior of shark fin soup is different in Mainland China versus the other markets.

Occasions of Consumption of Shark Fin Soup (Top 8)



Average Number of Occasions:	**2.4**	**1.7**	**1.9**	**1.9**

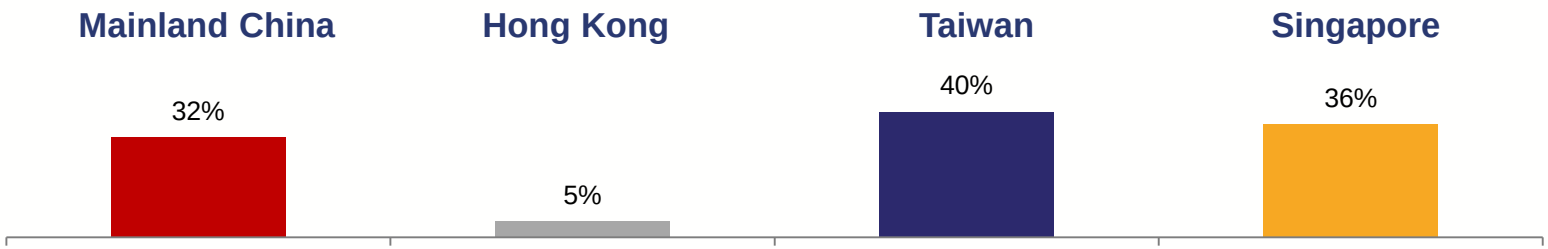
Q6a. In the past 12 months, on which of the following occasions have you eaten shark fin soup? – **Weighted data**

Base: Past 12 months shark fin soup consumers: *n*=1425 in Mainland China, *n*=591 in Hong Kong, *n*=573 in Taiwan, *n*=528 in Singapore

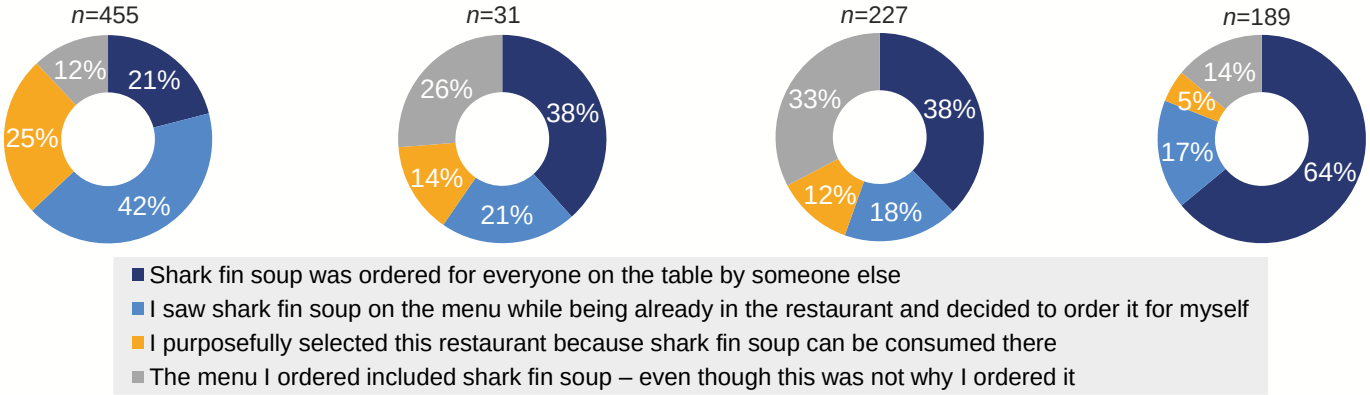
Occasions of Consumption – At the Restaurant

Among consumers of shark fin soup at restaurants in the past 12 months, seven in ten did not order this dish purposefully in Hong Kong and Taiwan, i.e., their consumption on this occasion was “passive”. Singapore has the highest share of “passive” consumers at the restaurant (eight in ten), while in Mainland China, seven in ten consumers claim to have purposefully chosen shark fin soup and can be qualified as “active consumers.”

Consumed Shark Fin Soup at the Restaurant in Past 12 Months



Who Took the Decision? (Among Those Who Consumed Shark Fin Soup at the Restaurant in the Past 12 Months)



Q6a. In the past 12 months, on which of the following occasions have you eaten shark fin soup? At the Restaurant **– Weighted data**

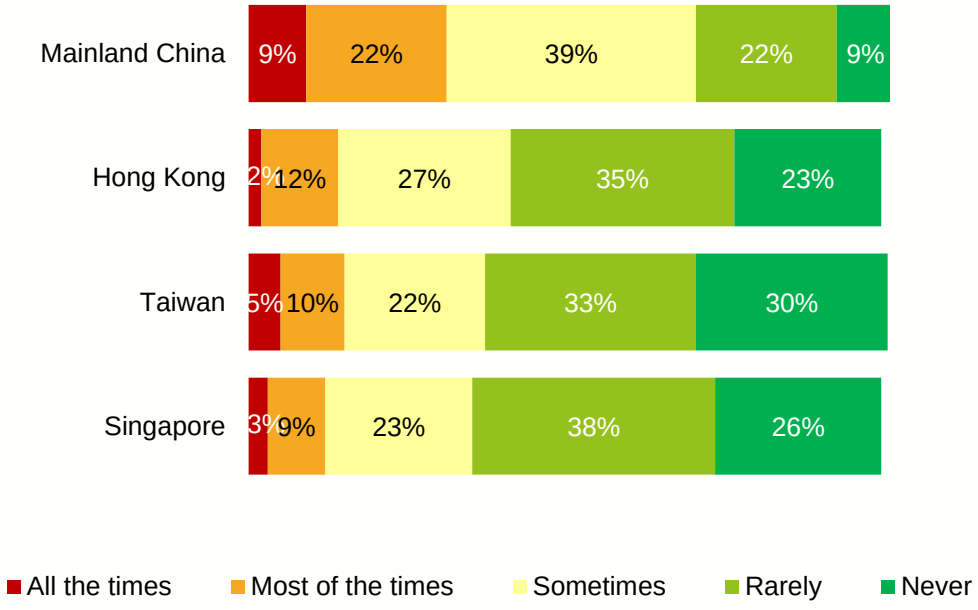
Q6b. Could you please indicate how you made the decision to eat shark fin soup in this restaurant? **– Weighted data**

Base: Past 12 months shark fin soup consumers: *n*=1425 in Mainland China, *n*=591 in Hong Kong, *n*=573 in Taiwan, *n*=528 in Singapore

Decision to Include Shark Fin Soup in Meals

Overall, a majority of consumers seldom take the decision to include shark fin soup in the meals that they help to organize in Hong Kong, Taiwan and Singapore. However, in Mainland China the portion of deciders is larger.

Own Decision to Include Shark Fin Soup in Meals



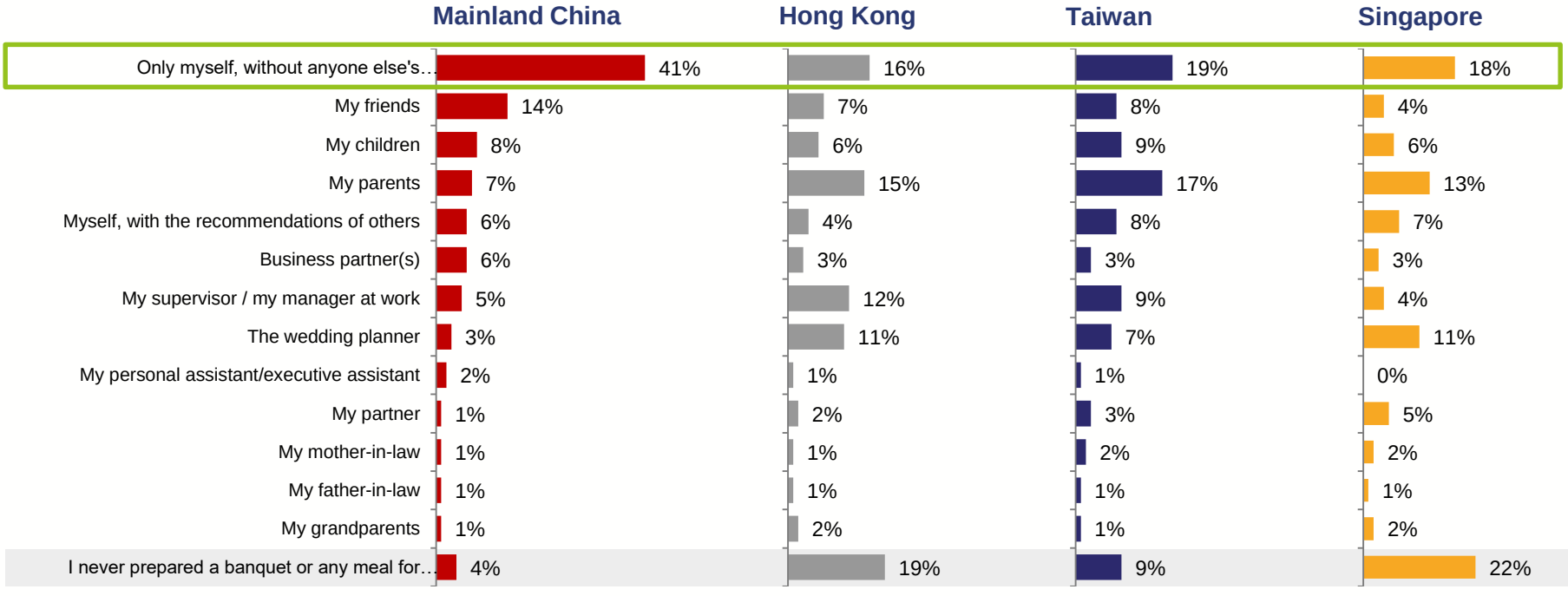
Deciders "All/most of the times"	Non-Deciders "Rarely/never"
31%	31%
14%	58%
15%	63%
12%	64%

Q7. How often do you decide yourself to include shark fin soup in the meals that you help to plan or organize? – **Weighted data**

Base: Past 12 months shark fin soup consumers: *n*=1425 in Mainland China, *n*=591 in Hong Kong, *n*=573 in Taiwan, *n*=528 in Singapore

Main Decision-Maker for Food and Shark Fin Soup

There is a significantly larger portion of decision-makers for shark fin soup in CN amongst the past 12 months consumers (i.e., close to half of the consumers are the main decision-maker when including shark fin soup in banquets/meals). In other markets, the decision-makers vary more, i.e., the parents and wedding planner (reflecting the main occasion of consumption) also play an important role in the decision to include shark fin soup in a banquet or a meal.



Q8a. Who is the main decision-maker when it comes to food when you order or organize a banquet, any special ceremony/celebration or meal with guests? – **Weighted data**

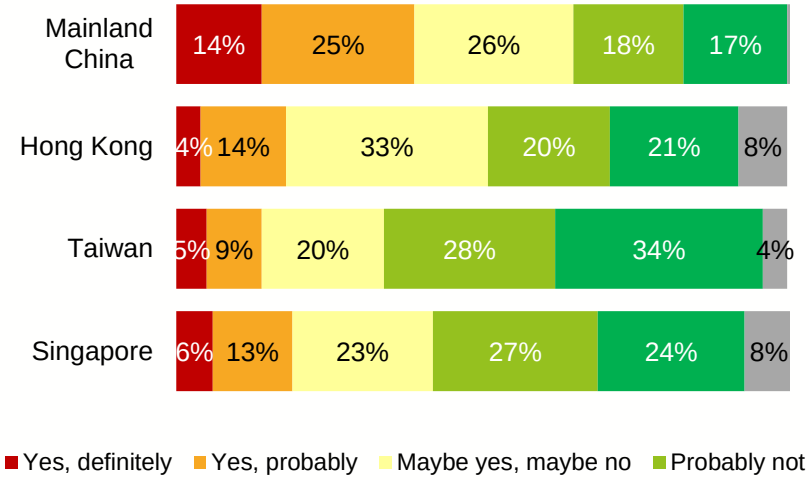
Q8b. And who decides whether shark fin soup should be included, or not? – **Weighted data**

Base: Past 12 months shark fin soup consumers: *n*=1425 in Mainland China, *n*=591 in Hong Kong, *n*=573 in Taiwan, *n*=528 in Singapore

Next 12 months Intended Inclusion/ Recommendation of Shark Fin Soup in Menus

Although most consumers of shark fin soup in Mainland China intend to continue including this dish in menus in the next 12 months, a majority agrees that overall, consumption has to decrease. This opinion is shared in the other markets, but intention to continue including shark fin soup in banquets is much lower.

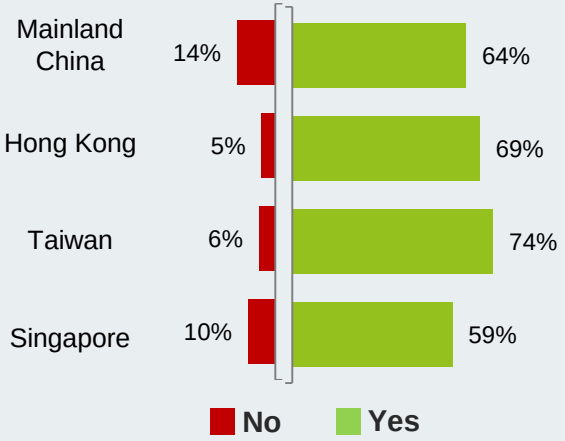
Intention to Include/Recommend Shark Fin Soup in the Next 12 Months in Banquets or Other Eating Occasions



	Top-2-Box: "Definitely/ probably"	Bottom-2-Box: 'Definitely not/ probably not"
Mainland China	39%	35%
Hong Kong	17%	41%
Taiwan	14%	62%
Singapore	19%	51%

Opinions on Shark Fin Soup Consumption

Do you think shark fin soup consumption should be decreased?



Q12. Thinking about next 12 months, do you expect to include or recommend to include shark fin soup in the menu of a banquet or other eating occasion? **– Weighted data**

Q13. Do you think that shark fin consumption should be decreased? – **Weighted data**

Base: Past 12 months shark fin soup consumers: *n*=1425 in Mainland China, *n*=591 in Hong Kong, *n*=573 in Taiwan, *n*=528 in Singapore



3. Detailed Analysis

3.5 Drivers and Deterrents of Shark Fin Soup Consumption

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GLOBESCAN

MaxDiff Methodology – as used in the Research Program

What Is the MaxDiff Methodology?
MaxDiff is a research methodology which allows us to understand the strength of an attribute relative to the other attributes rated. Respondents can only select one attribute which best describes their opinion or behavior among a list of five, and one which describes their opinion the least in the same list of five. Respondents see several different screens with five attributes selected randomly by the model, and have to repeat this process for each screen ten times or more. Hence, it gives the chance for each attribute to be selected as the preferred one, and to be compared with the others. This method gives a much better differentiation than rating each attribute.

Question Using MaxDiff in This Survey
The question on drivers and deterrents (Q9) uses MaxDiff. This question was asked in the local language to each respondent who qualified as a past 12 months shark fin soup consumer.

Q9. Now we will focus on shark fins and its consumption. On the following screens we will provide you lists of various statements. For each screen, please select the statement which describes your opinion the most, and the statement which describes your opinion the least.
Please select one statement from each box. We will repeat this question several times with different sets of statements to choose from.

How to Interpret the Results
The results for this question are reported based on the MaxDiff score. It is a relative score, reported as a measure of importance (Note: The MaxDiff score is not a percentage).
These attitudes can provide a baseline understanding of the drivers of shark fin soup consumption and the public's perception of specific shark-related issues, and outline the parameters of which dimensions might be communicated on through the messages/ campaigns.

Comparison with Other Surveys

A MaxDiff score cannot be compared to other methodologies. For a fair comparison, it is advised to look at the ranking of the attributes and not to compare their scores.

Design and Analyses – Path Analysis

Path Analysis

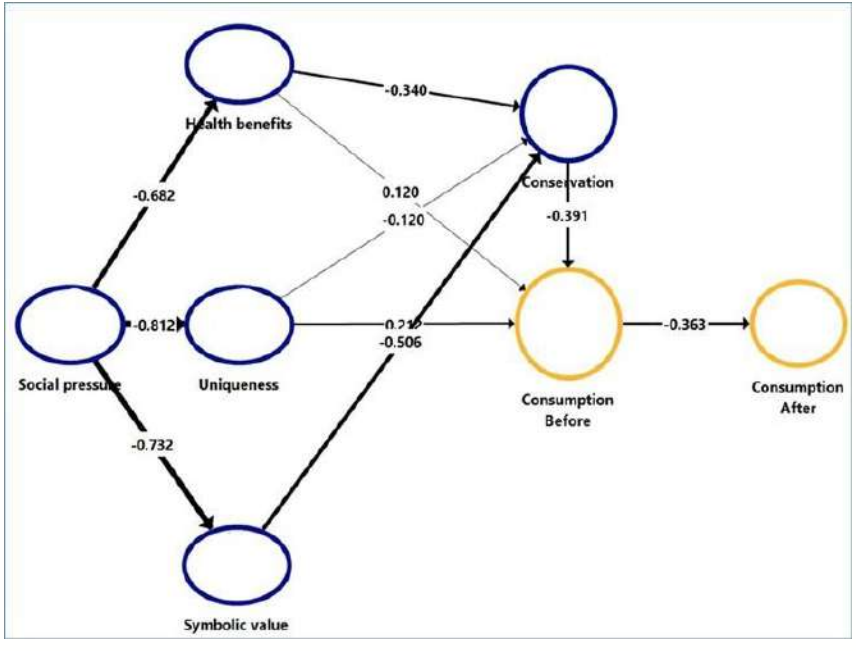
In order to understand the interplay between different groups of motives and attitudes in driving the intention to consume shark fin soup, we built a predictive model and explored it using Path Analysis framework.

Path Analysis, in a way, is a hybrid of factor and regression analysis. The former helps identify latent constructs (e.g., combinations of individual attributes); the latter, to explore the strength of causal relationships in predicting the outcome of interest (e.g., intended consumption). Path modeling, compared to multiple regression analysis, helps uncover both direct and indirect causal effects.

On the path diagram (see below), Perceived Symbolic value does not drive intended Consumption directly. However, it very strongly impacts Consumption by weakening the perceived need for conservation of sharks (strong negative driver -.506).

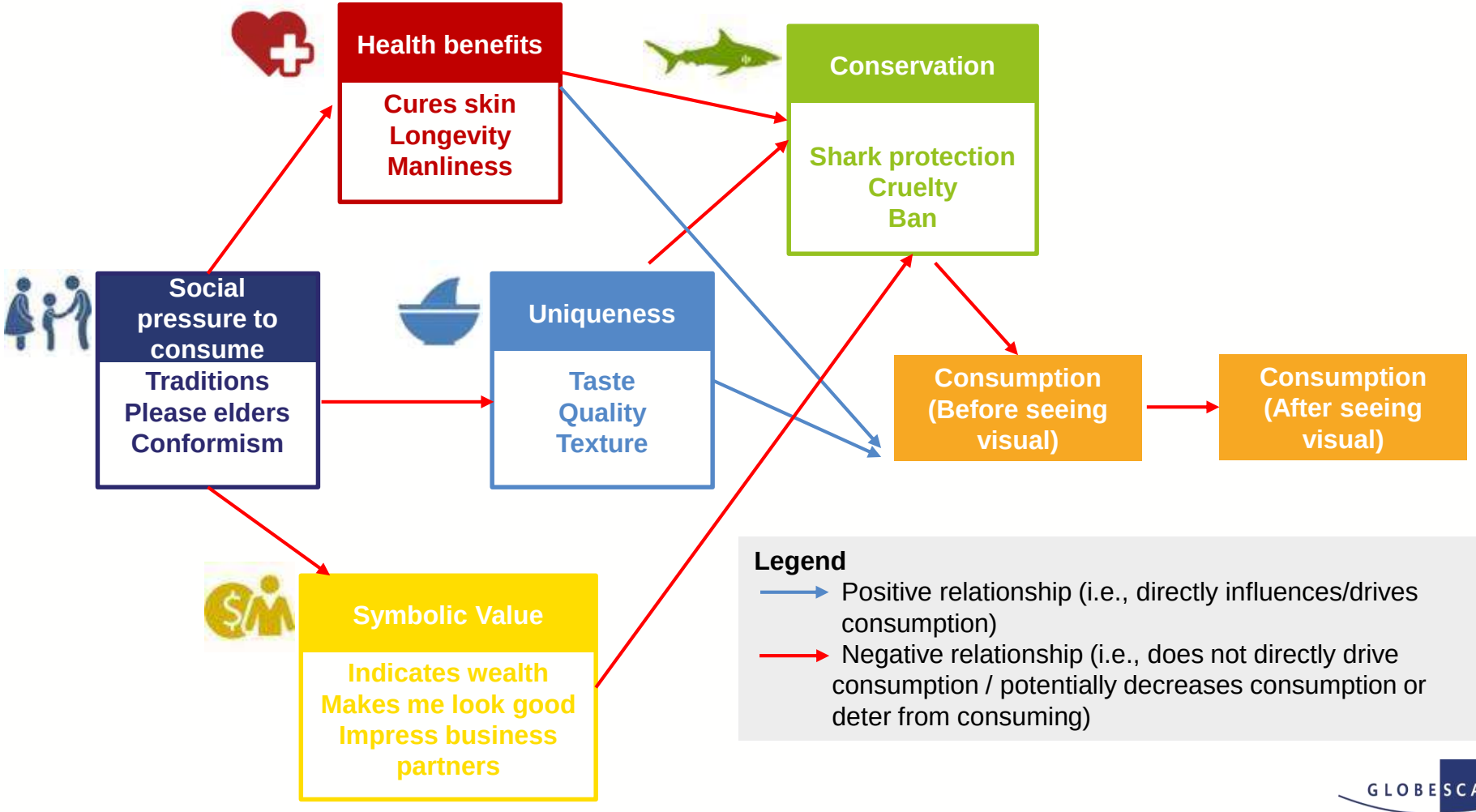
Path Model Structure (Factors*):

- Conservation (attitudes towards conservation of sharks)
- Perceived Health benefits
- Perceived Social pressure
- Perceived Symbolic value
- Perceived Uniqueness
- Intended consumption before exposure to visual stimuli
- Intended consumption after the exposure



** Please refer to the appendix for the detailed definition of factors*

Drivers and Deterrents Summary – Main Relationships
(Example of Mainland China)



Drivers and Deterrents Summary (1)

In order to understand the importance of, and linkages among, various beliefs, attitudes and concerns that relate to intent to consume shark fin soup, GlobeScan conducted two types of statistical analyses: a MaxDiff Analysis, and a Path Analysis (Structural Equation Modeling).

The MaxDiff analysis tests a series of predictors to determine which ones are most influential. While there are nuances among markets that need to be taken into account (see market charts in this chapter), certain drivers were found to be applicable across the markets studied. Each of the drivers is composed of an aggregate of a number of individual variables grouped using factor analysis.

In all four markets surveyed, the leading opinions on shark fin soup consumption are deterrents to consumption. In this analysis, conservation is found to be the strongest influencer of shark fin soup (non) consumption among Past 12 Months Consumers, followed by a government ban and the awareness of animal cruelty. These attributes are all deterrents to consumption.

- **Together, these three drivers suggest a sense of urgency and highlight the awareness of the consumers that shark fin soup consumption is a direct threat to sharks. It suggests that actions need to be taken to save sharks from extinction, mostly from the government (i.e., a ban) or by the consumers themselves (i.e., use a substitute in a set dinner/banquet, stop eating).**

But some ingrained drivers of consumption remain

When focusing on specific attributes which drive the consumption of shark fin soup, the leading drivers are related to social pressure (i.e., tradition, please the elders, I prefer not to eat but don't want to be embarrassed) and to the uniqueness of shark fin soup, particularly its taste and quality. Health-related drivers (i.e., cures skin conditions) also play their part in Mainland China, though less so in the other markets.

- **The belief that serving shark fin soup is part of the Chinese tradition and that it is a sign of respect is a major driver of the passive consumption of shark fin soup. However, active consumption is mostly driven by the uniqueness of shark fin soup, especially taste and quality.**

Drivers and Deterrents Summary (2)

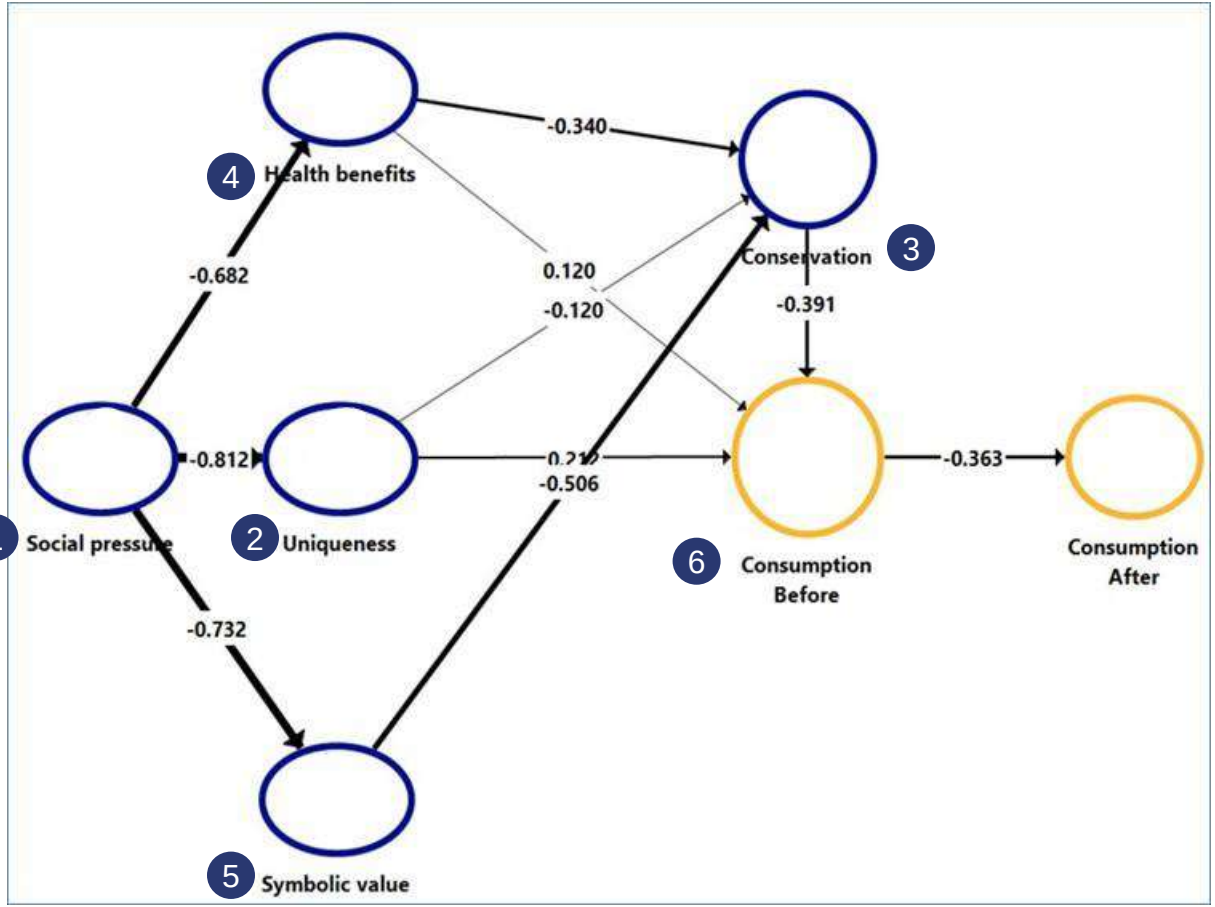
Furthermore, to better understand intent to consume shark fin soup and the interaction of perceptions of shark fin soup and various social values, we also conducted a path analysis (see next page). Using structural equation modeling, the path analysis uncovers both direct and indirect drivers of key beliefs and behaviors that lead to the outcomes that this study seeks to advance.

In this path analysis, first, multiple variables were grouped into factors, or clusters of related attitudes, values and behaviors using principal components analysis.

1. The first cluster in the diagram (see next page) relates to the social pressure consumers face when it comes to consuming shark fin soup, more specifically, to respect the tradition, respect the elders, being conformist and caring about what others think.
2. The second cluster refers to positive associations with shark fin soup, including its “great” taste, its quality and unique texture.
3. The third cluster captures attitudes towards conservation and concerns about animals and sharks specifically. These attitudes are all negative views on shark fin soup consumption, i.e., deterrents.
4. The fourth cluster represents the health benefits related to shark fin soup consumption, such as the belief that it cures skin conditions.
5. The fifth cluster represents symbolic values associated with shark fin soup consumption, such as the particular status conferred to the consumer and the indication that the consumer is wealthy.
6. The sixth cluster illustrates our key outcomes of intent to consume (after seeing a visual on shark finning).

Note: Cluster numbers are indicated in the path analysis in the next page

Path Analysis – Mainland China

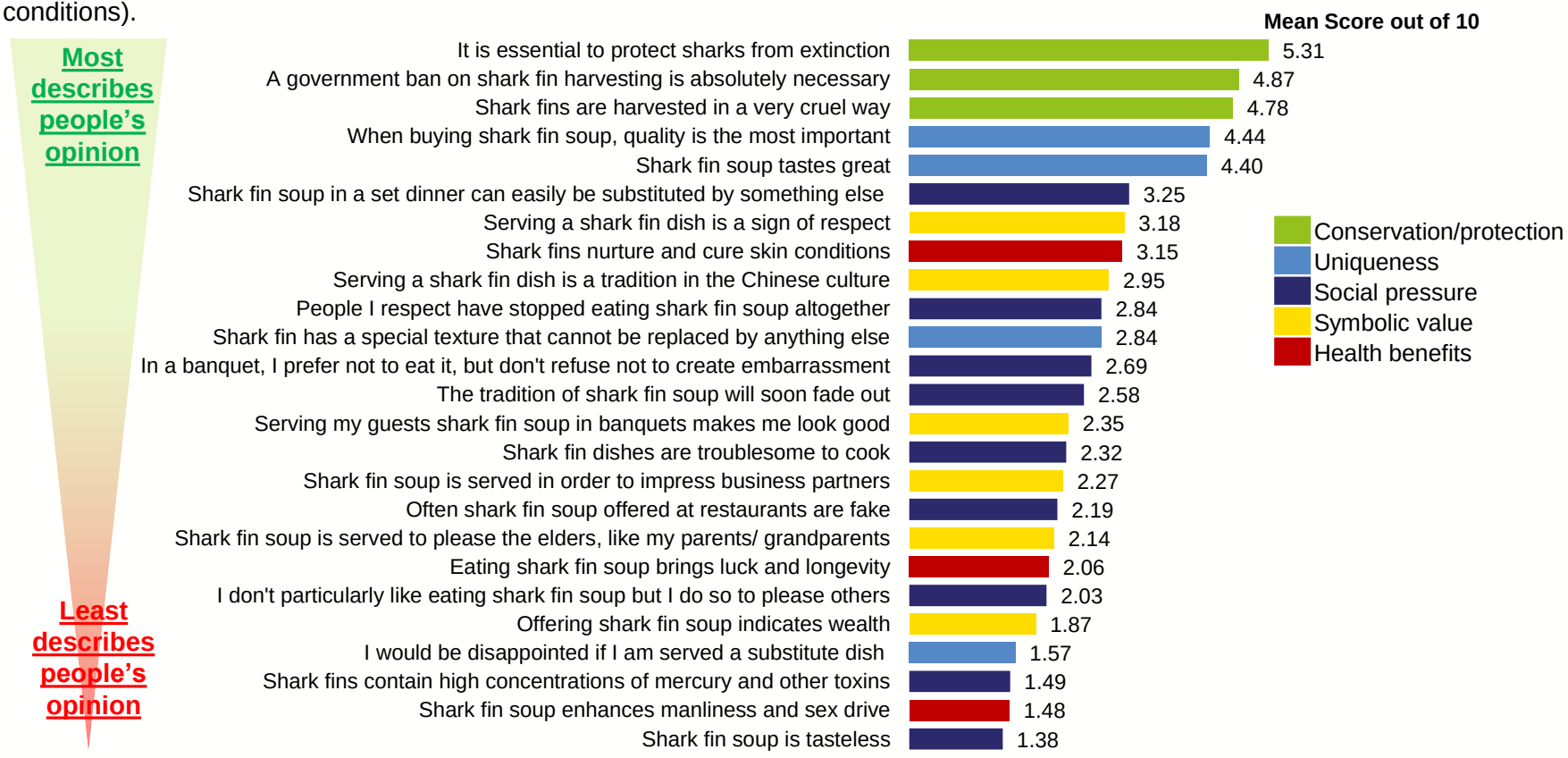


Main Relationships and Learnings

- **In Mainland China, uniqueness and health benefits have a positive relationship to past consumption.**
- Symbolic value is not a major driver, i.e., the health benefits counter-balance social pressure, meaning that consumers are more likely to consume shark fin soup because they believe it will bring them health benefits (i.e., cures skin conditions) rather than being influenced by social pressure.
- Moreover, for those who experience social pressure when consuming shark fin soup, the symbolic value is not high nor relevant.
- The negative relation between consumption before and after exposure to the stimuli shows that **consumption is mostly driven by lack of awareness of how shark fins are harvested. The exposure to the visual amplifies the intention to eat less.**

Opinions on Shark Fin Soup Consumption – Mainland China

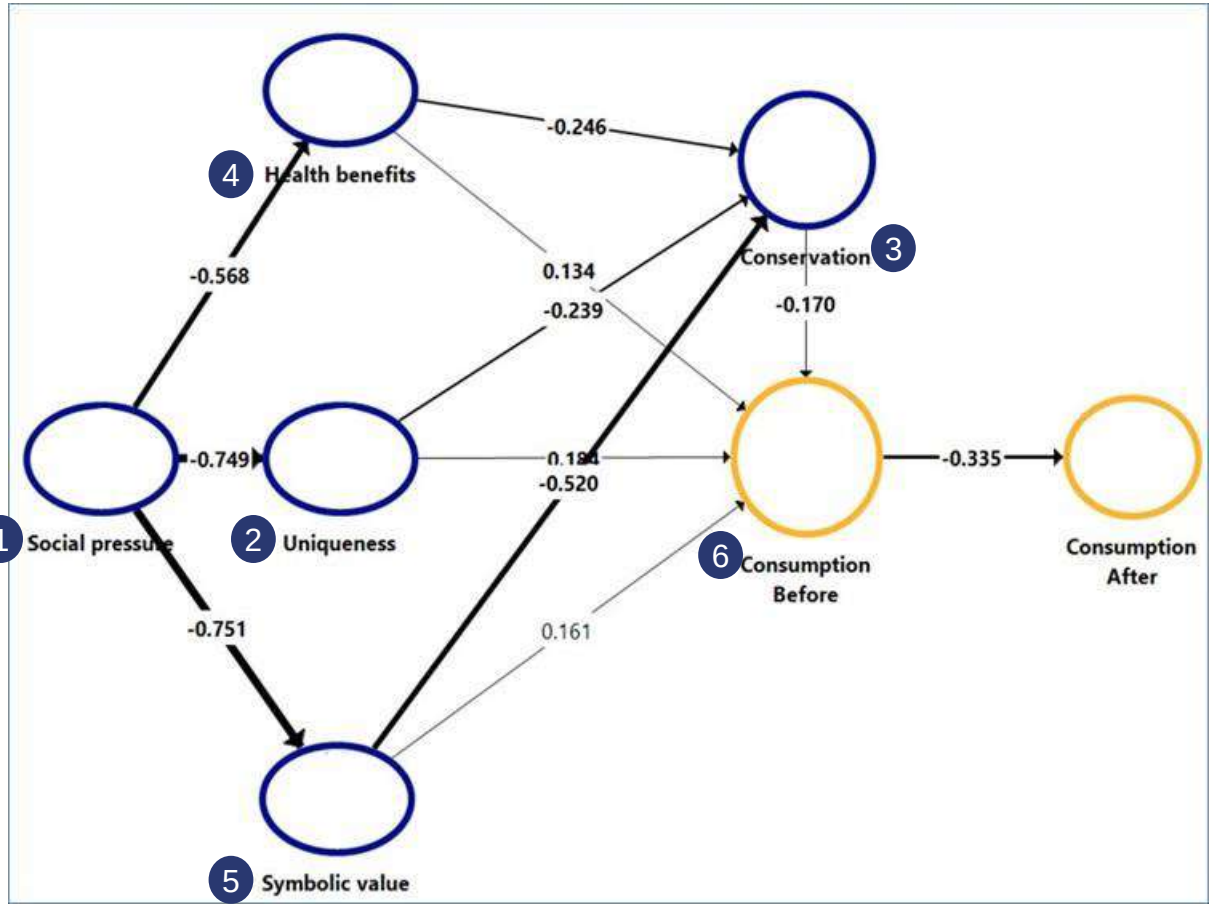
Opinions related to shark fin soup consumption are mostly in favor of conservation, a government ban and against cruelty, while the main drivers of consumption are its uniqueness (taste and quality), social pressure (traditions) and are health-related (cures skin conditions).



Q9. Now we will focus on shark fins and its consumption. On the following screens we will provide you lists of various statements. For each screen, please select the statement which describes your opinion the most, and the statement which describes your opinion the least. – **Weighted data**

Base: Past 12 Months Shark Fin Soup Consumers: *n*=1425 in Mainland China

Path Analysis – Hong Kong

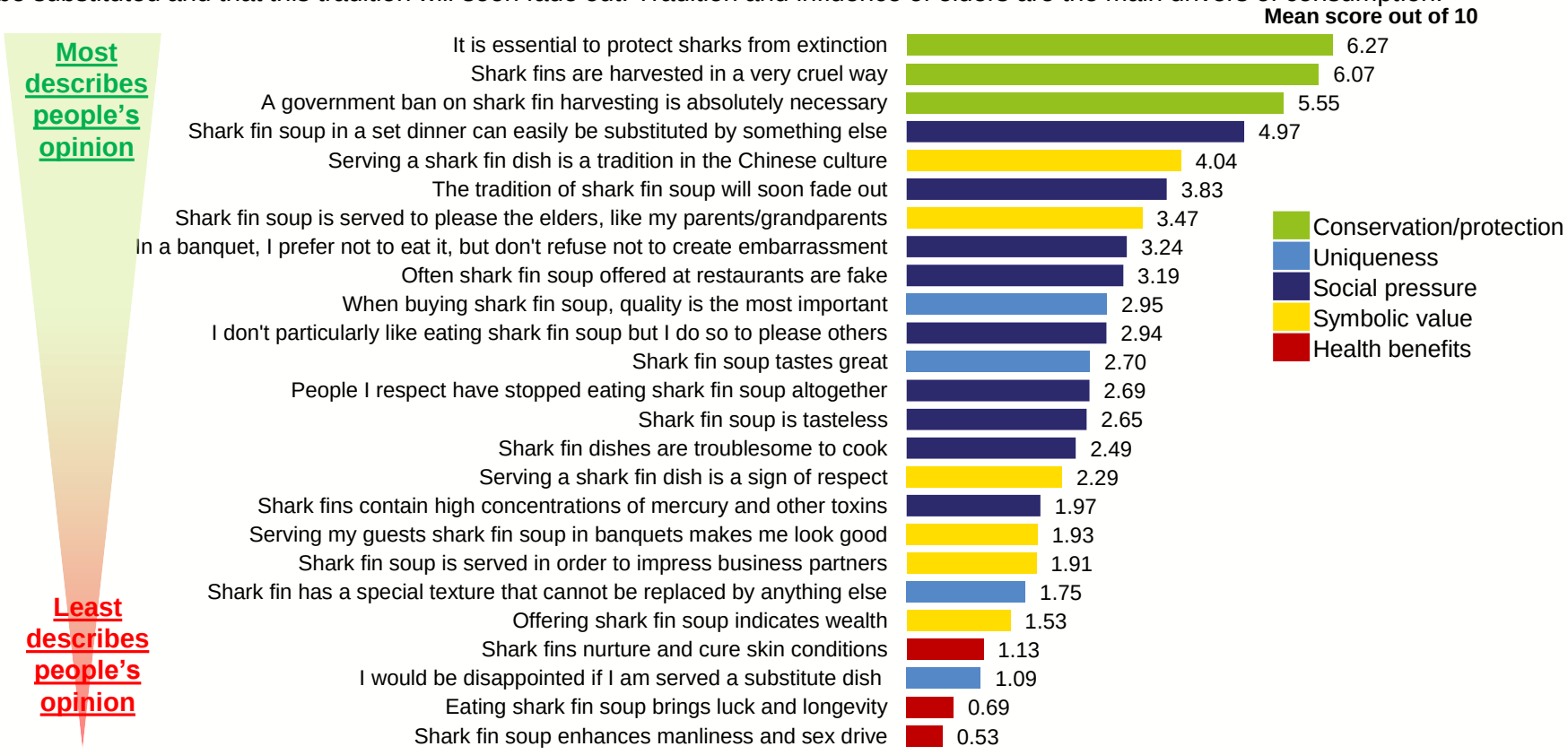


Main Relationships and Learnings

- **In Hong Kong, symbolic value plays a role in driving consumption, while health benefits and uniqueness also have a positive relationship on past consumption.**
- Symbolic value is the most likely reason for passive/infrequent consumption to be high in Hong Kong, i.e., serving shark fin soup because it impresses business partners and indicates wealth are direct influencers. However social pressure has an indirect influence on consumption, i.e. it is a tradition and to please the elders are major drivers of consumption in Hong Kong (see next page). This indicates that "conformism" is pivotal in driving consumption in Hong Kong.
- The negative relation between consumption before and after exposure of the stimuli shows that **consumption is partly driven by lack of awareness of how shark fins are harvested. The exposure to the visual amplifies the intention to eat less.**

Opinions on Shark Fin Soup Consumption – Hong Kong

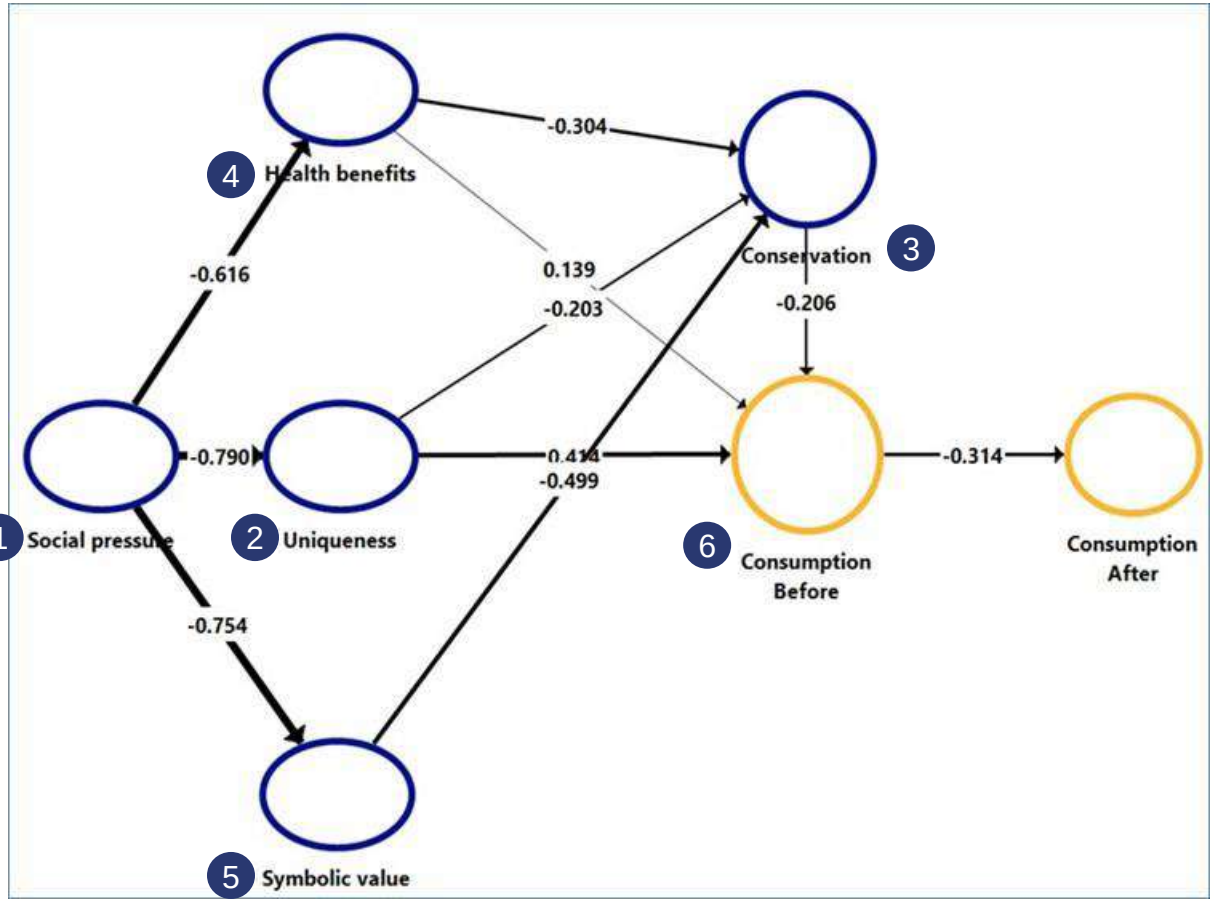
In Hong Kong, the leading opinions associated with shark fin soup consumption are deterrents (i.e., shark conservation, in favor of a government ban, cruelty). While serving a shark fin dish is perceived as a tradition, consumers also think that shark fin soup can easily be substituted and that this tradition will soon fade out. Tradition and influence of elders are the main drivers of consumption.



Q9. Now we will focus on shark fins and its consumption. On the following screens we will provide you lists of various statements. For each screen, please select the statement which describes your opinion the most, and the statement which describes your opinion the least. – **Weighted data**

Base: Past 12 Months Shark Fin Soup Consumers : *n*=591 in Hong Kong

Path Analysis – Taiwan



Main Relationships and Learnings

- **In Taiwan, uniqueness has a strong positive relationship on past consumption. Health benefits also impact consumption positively, but to a lesser extent.**
- Symbolic value is not a direct driver, i.e., the perceived uniqueness of shark fin soup counter-balances the symbolic value, meaning that consumers are more likely to consume shark fin soup because they like its taste, texture or for its quality (all unique attributes to shark fin soup) rather than being influenced by its symbolic value (i.e., tradition, makes me look good, indicates status).
- The negative relation between consumption before and after exposure of the stimuli shows that **consumption is mostly driven by lack of awareness of how shark fins are harvested. The exposure to the visual amplifies the intention to eat less.**

Opinions on Shark Fin Soup Consumption – Taiwan

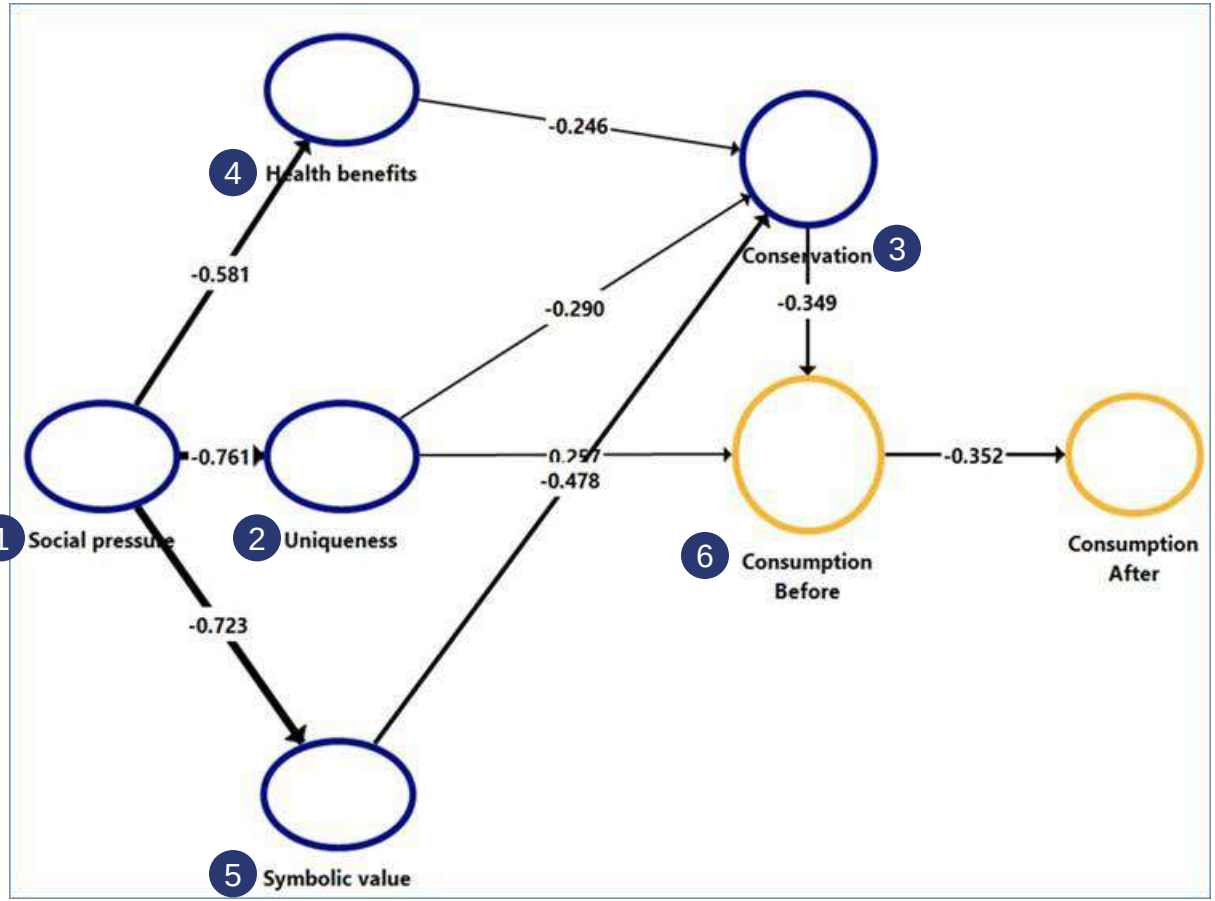
Opinions related to shark fin soup consumption are primarily in favor of conservation, a government ban and against cruelty. Moreover, respondents think that shark fin soup can easily be substituted, can be fake at the restaurant and claim to be often passive consumers (i.e., consume under social pressure).



Q9. Now we will focus on shark fins and its consumption. On the following screens we will provide you lists of various statements. For each screen, please select the statement which describes your opinion the most, and the statement which describes your opinion the least. – **Weighted data**

Base: Past 12 Months Shark Fin Soup Consumers : *n*=573 in Taiwan

Path Analysis – Singapore

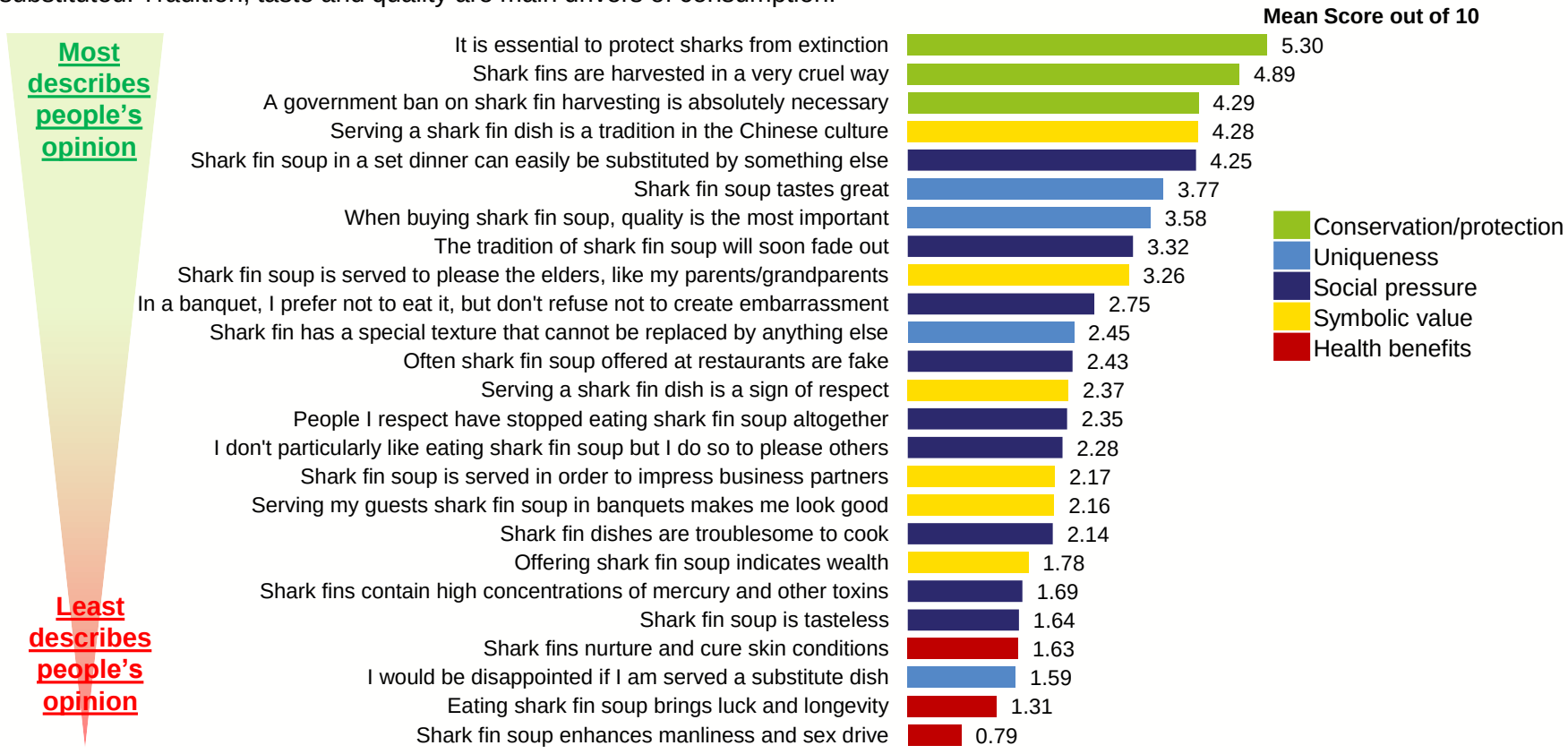


Main Relationships and Learnings

- **In Singapore, uniqueness is the only driver with a positive relationship on consumption 'Before'.**
- Symbolic value is not a major driver, i.e., the perceived uniqueness of shark fin soup counter-balances the symbolic value, meaning that consumers are more likely to consume shark fin soup because they like its taste, texture or for its quality (all unique attributes to shark fin soup) rather than being influenced by its symbolic value (i.e., tradition, makes me look good, indicates status).
- The negative relation between consumption before and after exposure of the stimuli shows that **consumption is mostly driven by lack of awareness of how shark fins are harvested. The exposure to the visual amplifies the intention to eat less.**

Opinions on Shark Fin Soup Consumption – Singapore

In Singapore, the opinions expressed are primarily in favor of shark conservation, a government ban on shark fin harvesting and against cruelty. While serving a shark fin dish is perceived as a tradition, consumers also think that shark fin soup can easily be substituted. Tradition, taste and quality are main drivers of consumption.



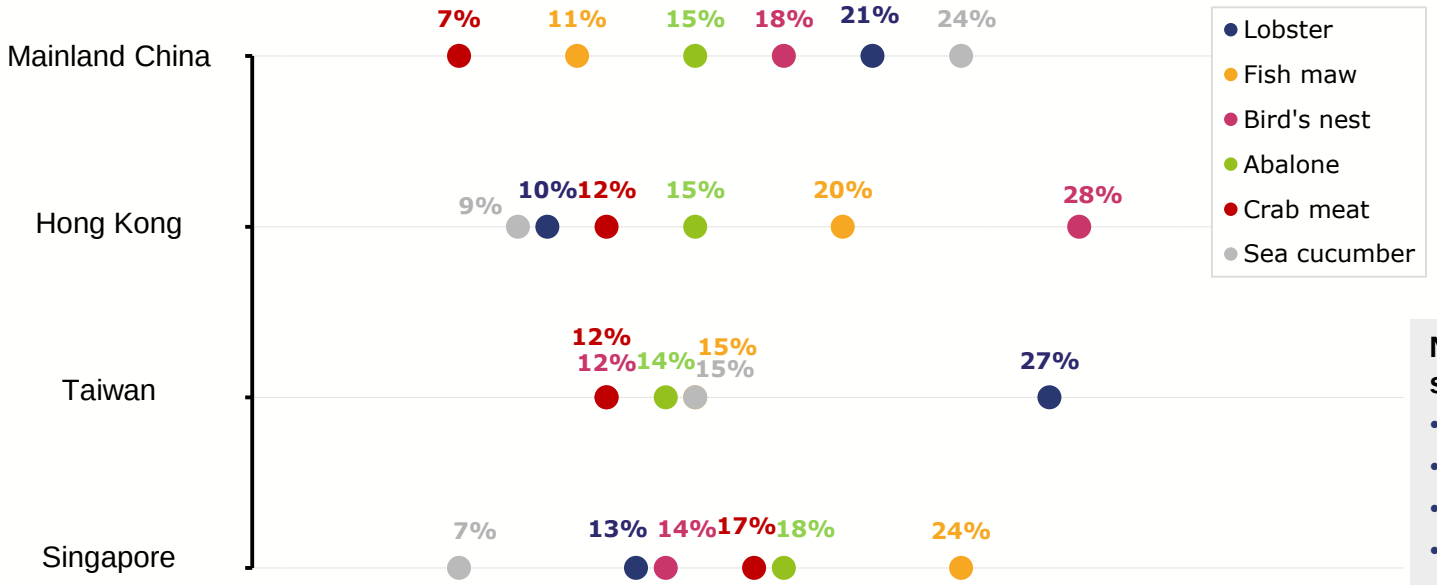
Q9. Now we will focus on shark fins and its consumption. On the following screens we will provide you lists of various statements. For each screen, please select the statement which describes your opinion the most, and the statement which describes your opinion the least. – **Weighted data**

Base: Past 12 Months Shark Fin Soup Consumers : *n*=528 in Singapore

Potential Replacement Dish for Shark Fin Soup

The potential substitutes for shark fin soup in traditional banquets vary by market: sea cucumber is perceived as the main alternative in Mainland China, bird's nest leads in Hong Kong, lobster is the single replacement in Taiwan and fish maw is perceived as the best substitute in Singapore.

Best Replacement Dish for Shark Fin Soup in Traditional Banquets (%)



Nothing can replace shark fin soup

- Mainland China: 3%
- Hong Kong: 3%
- Taiwan: 3%
- Singapore: 7%

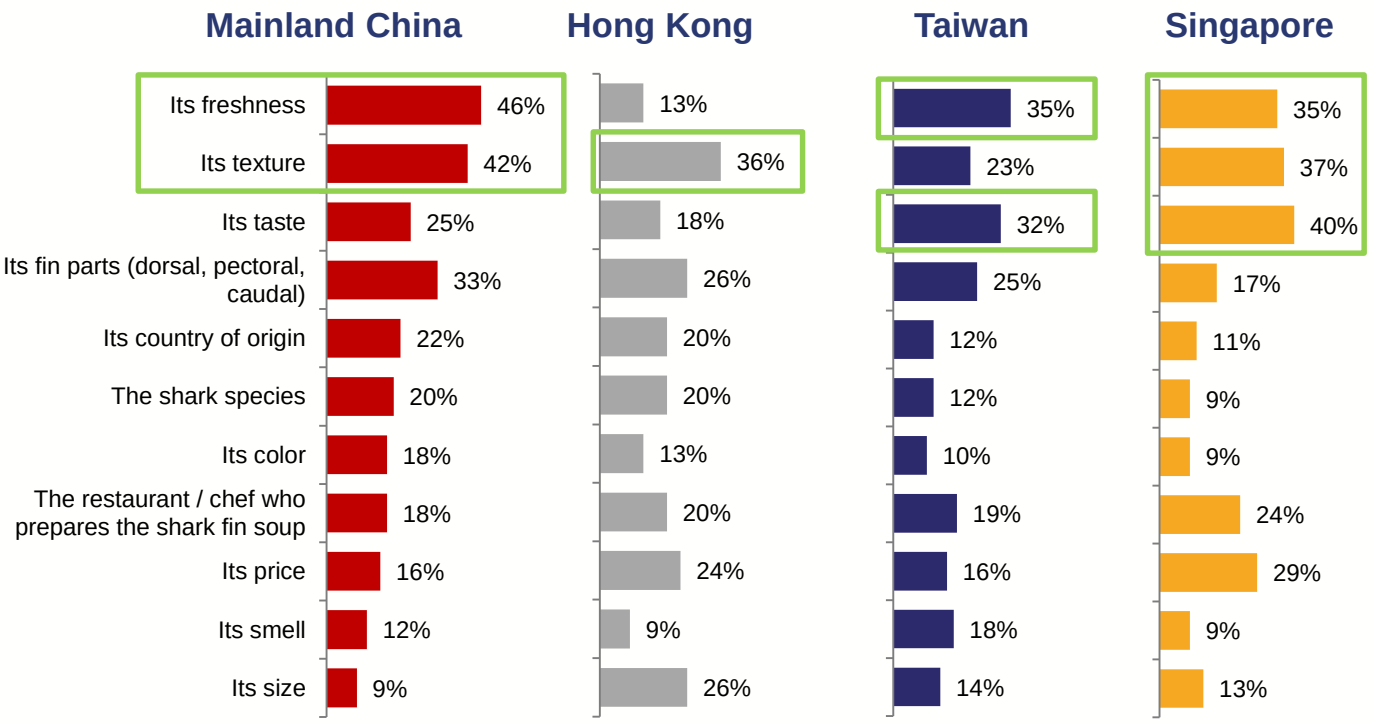
Q17. Thinking about different foods, which of the following would be the best replacement dish for shark fin soup on traditional banquets? – **Weighted data**

Base: Past 12 Months Shark Fin Soup Consumers: *n*=1425 in Mainland China, *n*=591 in Hong Kong, *n*=573 in Taiwan, *n*=528 in Singapore

Definition of the Quality of Shark Fins
Qualitative and Quantitative Findings

Overall, the quality of shark fin is determined mostly through its freshness, its texture and its taste. However, while freshness is the most important criteria in Mainland China and Taiwan, texture dominates in Hong Kong and taste is the key criteria in Singapore.

Best Ways to Determine the Quality of Shark Fin (% Rank 1-3)



Q10. Now we would like to ask you to rank the 3 best ways for you to determine the quality of shark fin [soup]. – **Weighted data**

Base: Past 12 Months Shark Fin Soup Consumers: *n*=1425 in Mainland China, *n*=591 in Hong Kong, *n*=573 in Taiwan, *n*=528 in Singapore

Definition of the Quality of Shark Fins
Store Audit in Hong Kong & Qualitative Findings

We visited 3 Sheung Wan dried seafood stores to understand more about the quality and pricing of shark fins. Staff were open and welcoming to questions and willing to explain their shark products that were available. The dried seafood stores included:

- On Kee Dry Seafood Store (安記海味)
- Long Time Hong (隆泰行)
- Dat Shing (大成燕窩參茸專門店)

All three stores recommended **Jingo shark fin** (金山勾翅) as it was known to be of the best quality and boneless, followed by **Yajian shark fin** (牙揀翅). Prices are set per size of shark fin, as shown in the table on the right.

Dried Jingo shark fin (**金山勾翅**)	
Size (inch)	Price per kg (HKD)
6-7	4,800
7-8	5,300
8-9	5,800
9-10	6,500
10-11	7,200
11-12	8,000
12-13	8,500

Following the store audit, additional desk research on different types and qualities of shark fin was conducted. In general, it could be observed that prices of shark fins ranged from $830HKD to $5300HKD per kilogram, with the quality of shark fin determined mainly by:

- **Thickness of fin;**
- **Size of fin; and**
- **Different parts of fins**

On the other hand, the species of shark did not seem to be a major differentiating factor for price.

Source: Store Audits



On Kee Dry Seafood Store (安記海味)

Qualitative Findings

Shark fin soup was considered a luxury and an expensive food to most of the focus groups respondents, who agreed that different grades/ classes of shark fin quality are available within a wide price range. However, respondents did not have much knowledge on how to determine the quality.

Some major factors mentioned by respondents to determine the quality of shark fins include:

- Species (type of sharks)
- Size (big/small)
- Thickness (soft/hard/thick)
- Color (transparency)

Source: Focus Groups



3. Detailed Analysis

3.6 Test of Concept Messages and Communication

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GLOBESCAN

Introduction to the Section: Stimuli Offered in the Survey

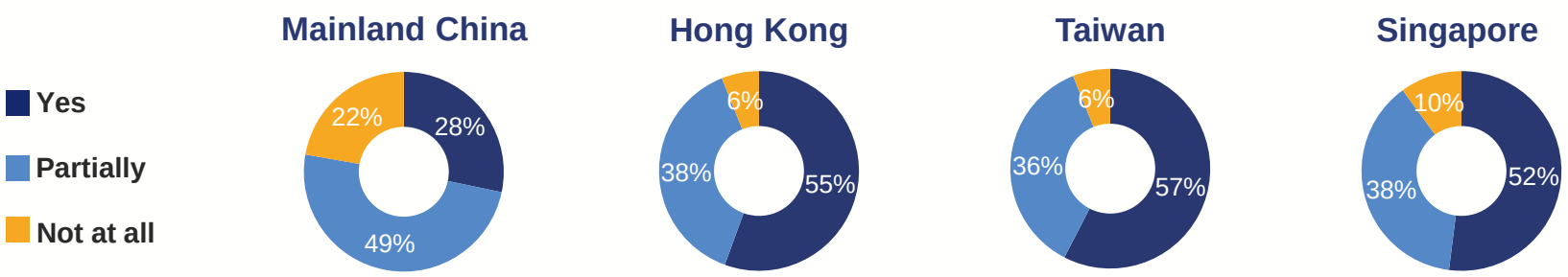
Before answering the questions on the concept messages, respondents saw a screen with the facts and images shown below. This stimuli aims to provide background information on shark finning to respondents. This helped to gather and gauge their reactions after seeing an impactful visual. While these visuals show animal cruelty, they illustrate what is described in the “animal cruelty” message tested in this section of the report. However, when compared to qualitative results, these visuals do not seem to have significantly influenced the preference for this message.



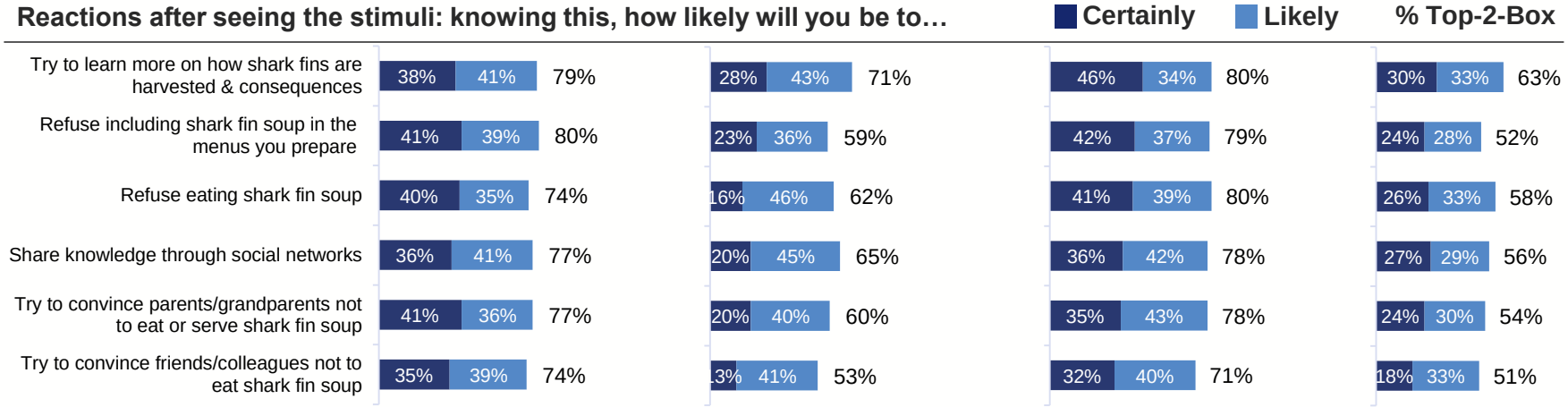
Reaction to Stimuli

Over half of the shark fin soup consumers claim to be fully aware of shark finning, except in Mainland China where the awareness of these facts is lower (three in ten are aware). The main reaction after seeing the stimuli is first to inform themselves on how shark fins are harvested.

Were you aware of these facts?



Reactions after seeing the stimuli: knowing this, how likely will you be to…



Q14. Were you aware of those facts? Q15. Knowing this, how likely will you be to… – **Weighted data**

Base: Past 12 Months Shark Fin Soup Consumers: *n*=1425 in Mainland China, *n*=591 in Hong Kong, *n*=573 in Taiwan, *n*=528 in Singapore

Introduction to Message Testing

The messages were tested in two phases during the research: first in the focus group discussions, and then the top messages from the qualitative survey were improved (when needed) and tested in the quantitative research (after showing the stimuli and collecting reactions on this stimuli).

Message Testing in the Qualitative Research

Respondents rated messages both spontaneously (based on the message they created) and prompted, based on a list of messages.

1. Respondents first had to create their own message to incite people to reduce or stop consuming shark fins and/or shark products. This message was then classified in one of the four categories in the quadrant graphic used in the psychosocial approach (see illustration on the right) by Renee Lertzman, PhD, with Karen Baragona, Conservation Advisor, delivered to WWF in 2016. These four categories are Culture, Desire, Behavioral economics and Regulatory.

This exercise revealed that respondents mostly think about messages which fit in the Culture quadrant (environmental protection, emotional attachment) spontaneously. Only a few messages which fit in the Desire quadrant were mentioned.



2. Respondents then reviewed seven to nine different concept messages (the number of messages reviewed varied per group), ranked each of them and then gave their opinion. This revealed that messages on law enforcement and penalties, when prompted, are strongly influential.

Message Testing in the Quantitative Research

The preferred messages from the qualitative survey were improved and revised, and the quantitative survey measured their preferences. To obtain these measures, respondents had to rank these messages by order of preference, and indicate which element is the most impactful in the preferred message.

Legend: Messages

Extinction
An estimated 100 million sharks are killed every year with fins from up to 73 million used for shark fin soup, primarily to supply the markets in Asia. And 94.9 percent of shark species cannot maintain population stability if the harvest continues. The consumption of shark fins could lead to the extinction of sharks which have lived on this planet for over 400 million years.

Animal cruelty
Expensive fin soups are made of shark fins. During fishery activities, in order to stockpile the most shark fins, sharks are often captured, finned and abandoned. Sharks without fins cannot swim in the sea and will bleed to death.

Health
There is no scientific evidence that shark fins can be used to treat any medical condition. On the contrary, sharks contain high level of mercury and other neurotoxins. Exposure to mercury – even small amounts – may cause serious health problems. Cooking does not eliminate mercury. In many countries, it is advised that pregnant women and children should avoid eating shark.

Illegality/extinction
Shark fin soup is widely consumed in wedding banquet as a high-end dish. Consumption of shark fin soup drives illegal fishing, which leads to dramatic drop of shark population and unsustainable species reproduction. Do not let your wedding day become the end of sharks.

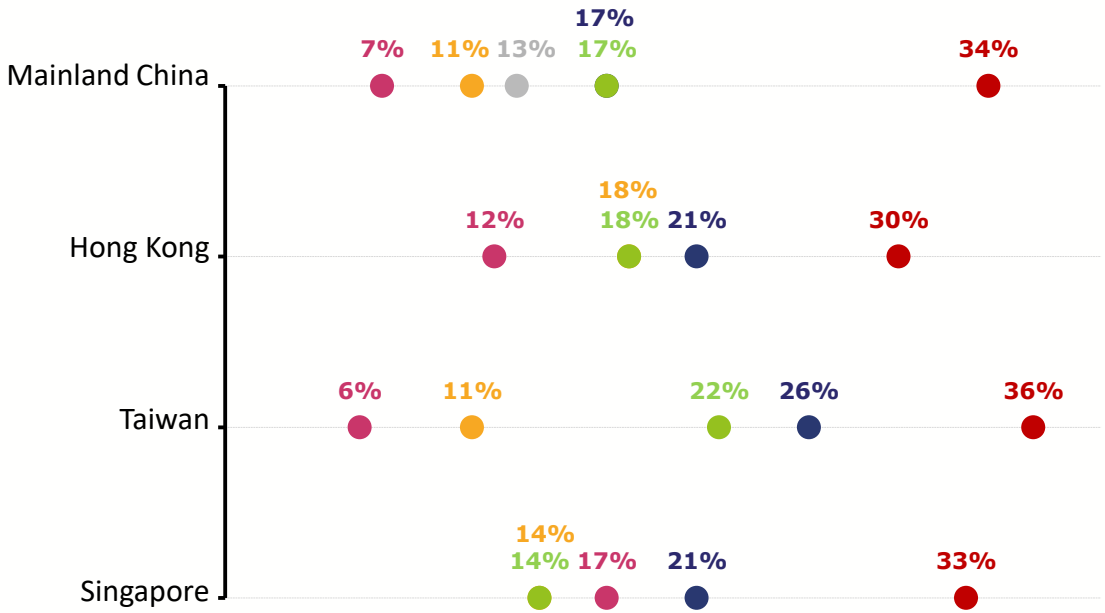
Luxury/status
While including shark fin soup in a banquet seems to be a luxurious choice, it's an old-fashioned way to show people your respect and status. Nowadays, people respect those who are conscious on the environmental impact of their consumption.

Law [for China only]
The Chinese government has banned consumption of shark fin dishes in official banquets since 2012. Even if we are not government officials, we'd like to follow this ban because it is the right thing to do.

Ranking of Preferred Messages

The message on the topic of extinction is the preferred one, with a significant gap to the other messages in all markets. The message on animal cruelty also resonates among consumers, particularly in Taiwan.

Preferred Messages (Summary of Rank 1) (%)



Q16. Now we will show you a list of various messages. Which one of the following messages affects your intention to consume shark fin soup the most? – **Weighted data**

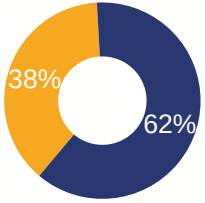
Base: Past 12 Months Shark Fin Soup Consumers: *n*=1425 in Mainland China, *n*=591 in Hong Kong, *n*=573 in Taiwan, *n*=528 in Singapore

Campaign Recall (Spontaneous)

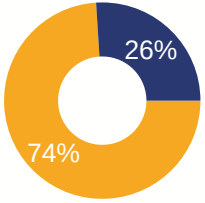
Past campaigns mentioning the banning of shark fin had the weakest recall in Hong Kong and Singapore. In Mainland China, recall of these campaigns is relatively high among shark fin soup consumers. However, among those who have heard about a campaign, the WildAid campaign "When the buying stops, the killing can too" is by far the one that had the strongest impact and drives the high recall.

Do you recall any previous campaigns mentioning the banning of shark fin? ■ Yes ■ Cannot recall any campaign

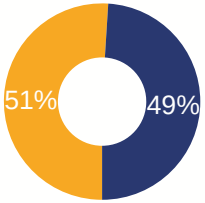
Mainland China



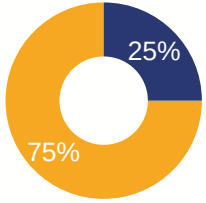
Hong Kong



Taiwan



Singapore



Top five campaigns/elements of campaigns recalled spontaneously – among those who recall campaigns

When the buying stops, the killing can too / "Yao Ming's ad" (WildAid)	**45%**
Ads by NGOs / animal rights organizations (e.g., WWF)	**15%**
Animal/shark protection / conservation messages	**11%**
Mainland China's government ban on shark fin in official banquets	**10%**
Shark finning in the news	**10%**
Irrelevant description / no description	**13%**

Name of NGOs/animal rights organizations (e.g., WWF, WildAid)	**14%**
Shark finning in the news	**8%**
Ads by NGOs/animal rights organizations (e.g., WWF)	**6%**
Promotional activities/ events by organizations	**6%**
Restaurants/hotels banning shark fins	**6%**
Irrelevant description/no description	***8%***

Cruelty of shark finning	**13%**
News	**12%**
Animal/shark protection / conservation messages	**11%**
Promotional activities / events by organizations / green groups	**6%**
Ads by organizations / green groups	**5%**
Irrelevant description/no description	***10%***

Animal/shark protection / conservation messages	**14%**
Cruelty of shark finning	**7%**
News	**6%**
Name of NGOs / animal rights organizations (e.g., WWF, WildAid)	**5%**
Online/social media platform (e.g., Facebook, WeChat, Weibo)	**5%**
Irrelevant description/no description	***30%***

Q18. Do you recall any previous campaigns mentioning the banning of shark fin? Please indicate anything that comes to your mind. **Open ended – weighted data**
Base: Past 12 Months Shark Fin Soup Consumers: *n*=1425 in Mainland China, *n*=591 in Hong Kong, *n*=573 in Taiwan, *n*=528 in Singapore

Main Campaigns Recalled Spontaneously

Amongst Respondents Who Claim to Recall a Campaign Mentioning the Banning of Shark Fin



When the buying stops, the killing can too / “Yao Ming’s ad” (WildAid) **(Recall: 45% in Mainland China, 3% in Taiwan, 1% in Hong Kong, 1% in Singapore)**





I’m FINished with Fins (WWF, National Geographic, Nat Geo Wild, WildAid, Shark Savers) **(Recall: 2% in Hong Kong, 2% in Singapore, 2% in Mainland China)**



Say No To Shark Fin Soup (WildAid) **(Recall: 2% in Singapore, 2% in Mainland China, 1% in Hong Kong, 1% in Taiwan)**

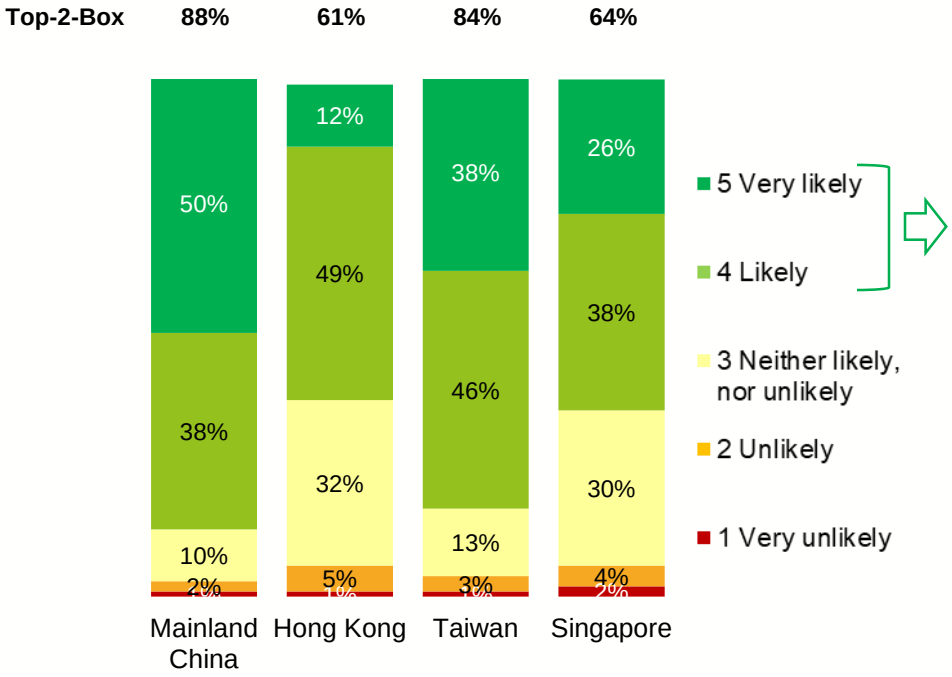


Don’t Let Them Disappear (IFAW) **(Recall: 3% in Taiwan, 2% in Mainland China, 1% in Singapore)**

Q18. Do you recall any previous campaigns mentioning the banning of shark fin? Please indicate anything that comes to your mind. **Open ended – weighted data**
Base: Past 12 Months Shark Fin Soup Consumers: *n*=1425 in Mainland China, *n*=591 in Hong Kong, *n*=573 in Taiwan, *n*=528 in Singapore

Intention to Support Campaigns

Although past campaigns were most recalled in Hong Kong and Singapore, these are also the markets where there is room to increase the consumers' intention to support (four in ten are unsure or do not intend to support a campaign) versus over eight in ten in Mainland China and Taiwan.

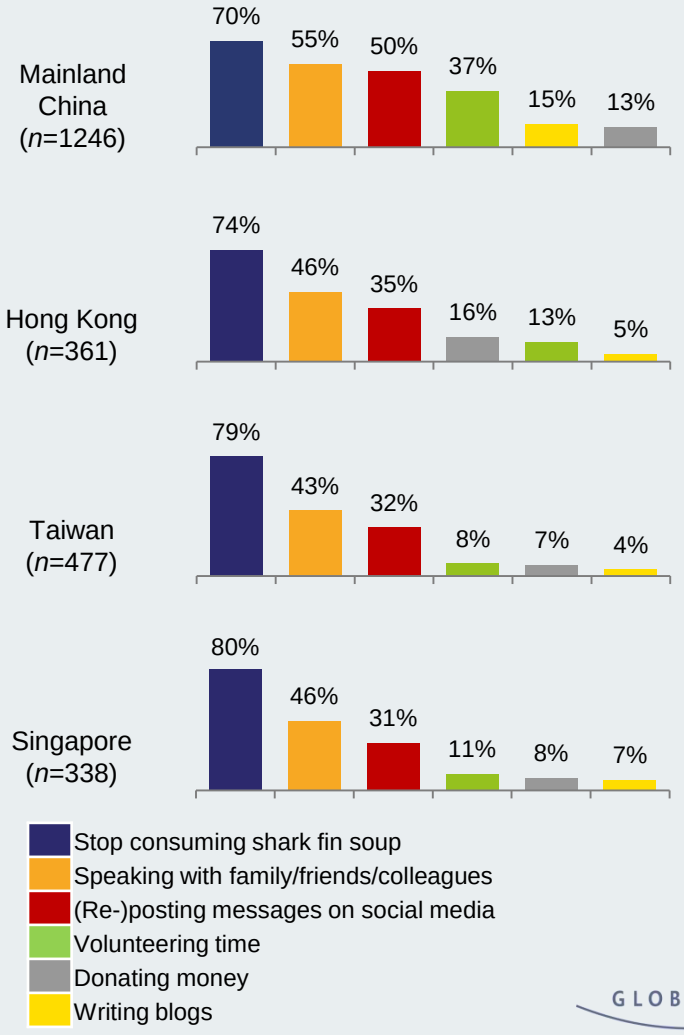


Q19. How likely will you be to support a future campaign on shark protection?
Q20. What type of support would you give? – **Weighted data**

Base: Past 12 Months Shark Fin Soup Consumers: *n*=1425 in Mainland China, *n*=591 in Hong Kong, *n*=573 in Taiwan, *n*=528 in Singapore

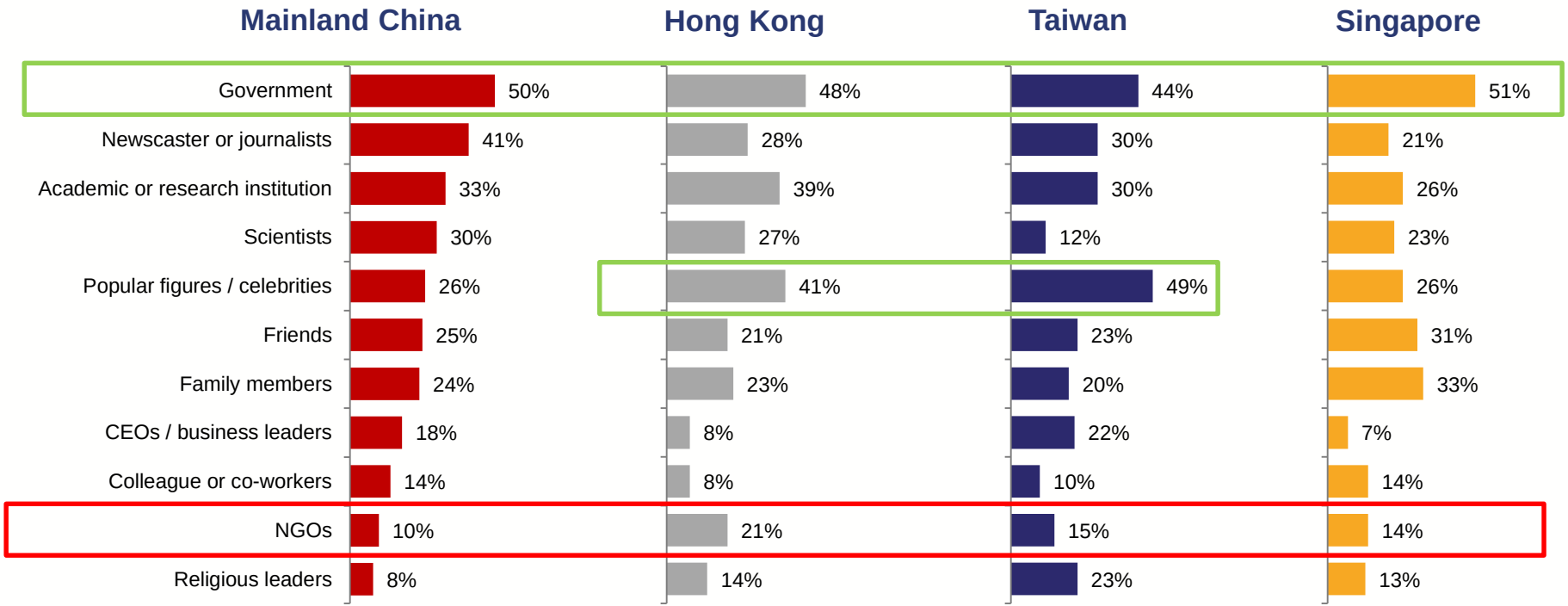
Type of Support to be Given

(Among those very likely or likely to support)



Trusted Messenger – All Answers

In all markets, the government benefits from the highest trust when it comes to delivering messages on shark protection. The other trusted messengers vary by market: in Mainland China, newscasters/journalists and academic/research institutions are also perceived to be trusted messengers, while popular figures/celebrities are mostly trusted in Hong Kong and Taiwan. On the other hand, NGOs are less trusted as messengers, with trust being particularly low for this group in Mainland China.



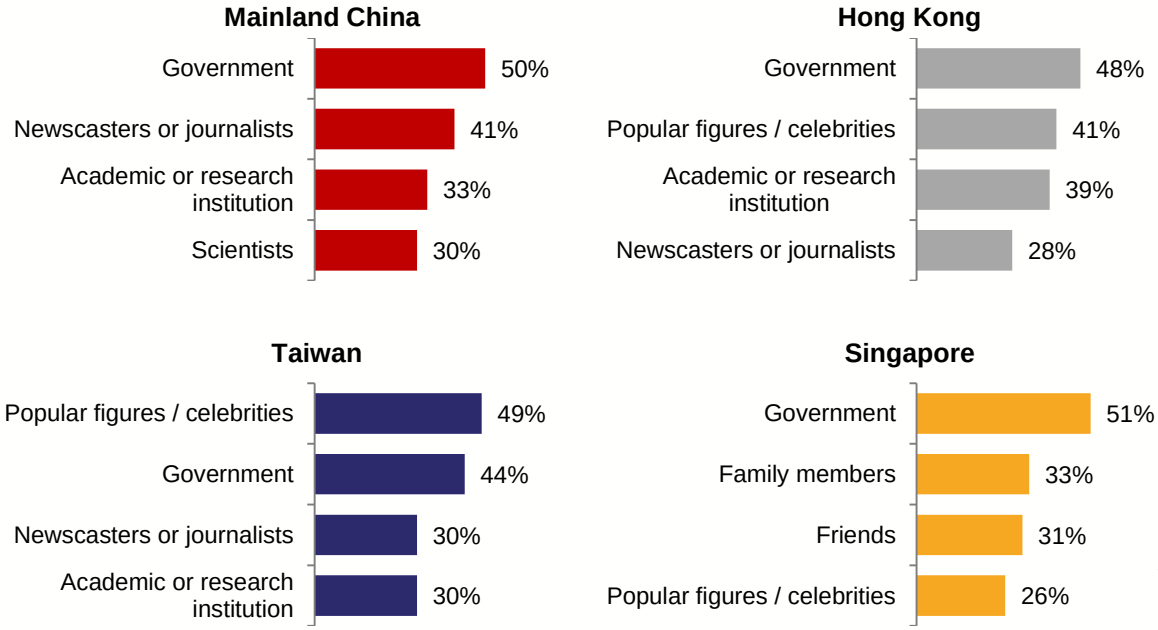
Q21a. Please indicate who you think would be the most trusted messenger to tell this message. – **Weighted data**

Base: Past 12 Months Shark Fin Soup Consumers: *n*=1425 in Mainland China, *n*=591 in Hong Kong, *n*=573 in Taiwan, *n*=528 in Singapore

Trusted Messenger

In all markets except for Taiwan, the government is the most trusted when it comes to delivering messages on shark protection. The other trusted messengers vary by market: in Mainland China, newscasters/journalists and academic/research institutions are also trusted, while popular figures/celebrities are highly trusted in Hong Kong and Taiwan.

Most Trusted Messengers – Top 4



Q21a. Please indicate who you think would be the most trusted messenger to tell this message, Q21b. Please indicate which popular figure or celebrity you think would be the most trusted person to tell this message. Please give the actual name of this (well-known) person. – **Weighted data**

Base: Past 12 Months Shark Fin Soup Consumers: *n*=1425 in Mainland China, *n*=591 in Hong Kong, *n*=573 in Taiwan, *n*=528 in Singapore

Most Trusted Popular Figure / Celebrity to Deliver This Message

(Among those who selected "popular figures / celebrities")

Mainland China


Yao Ming 28%


Jackie Chan 9%


Jack Ma 5%

Hong Kong

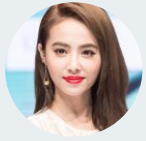

Andy Lau 26%


Chow Yun-fat 8%


Chief Executive of HK, Carrie Lam 5%

Taiwan


Jay Chou 7%


Jolin Tsai 6%


Terry Gou 6%

Singapore


Jackie Chan 9%


Zoe Tay 6%


Lee Hsien Loong 4%

Qualitative Insights on Communication

Mainland China

In Mainland China, messages communicating **strong emotional attachment** to respondents, demonstrating **relevance to local culture and traditions** and **providing statistical figures** are considered to be more effective and to leave a greater impression. These messages also allow respondents to reflect and rethink their decisions on shark consumption.

Preferred messages	Selected verbatims*
Expensive fin soups are made of shark fins. During fishery activities, in order to stockpile the most shark fins, sharks are often captured, finned and abandoned. Sharks without fins cannot swim in the sea and will bleed to death.	*"I felt like due to our greediness we are harming them."* *"The cruelty is very vivid and could spark my imagination."*
Shark fin soups are widely consumed in wedding banquet as a high-end dish. Excessive consumption of shark fin drives illegal fishing, which leads to a dramatic drop in the shark population and unsustainable species reproduction. Do not let your wedding day become the end of sharks.	*"It's like a curse to them for eating shark fin, which is the opposite of what they want in weddings."*

Educational messages with too much information were not considered effective as they lack connection and relevance to respondents. Some also mentioned they were unsure of terms like **"sustainability."**

Hong Kong

Respondents in Hong Kong were seen to be more critical and skeptical towards messages. They **preferred messages that are more mild and encouraging** compared to messages that are full of statistics. Personal relevance is also important to make a message effective to them.

Preferred messages	Selected verbatims*
Expensive fin soups are made of shark fins. During fishery activities, in order to stockpile the most shark fins, sharks are often captured, finned and abandoned. Sharks without fins cannot swim in the sea and will bleed to death.	*"So should we be solving the finning process problem instead of stop eating it then?"*
Consuming, buying and serving shark fins leads to shark extinction. An estimated 100 million sharks are killed each year just for their fins. End the shark fin trade, your action can help.	*"I feel more comfortable with this message; and it makes me feel like they really need my help."*

Content on **sustainability/sustainable consumption** was confusing to respondents. Messages that lack personal relevance to them or that are too generic had no effect on them.

*Responses have been selected to show examples of some of the most mentioned topic areas.

Qualitative Insights on Communication

Taiwan

In Taiwan, messages that allow the audience to **imagine and picture the cruelty of shark finning** were considered effective and raised thoughts on their consumption behavior. **Statistics and facts** were also good pieces of information to leave a greater impression.

Preferred messages	Selected verbatims*
Expensive fin soups are made of shark fins. During fishery activities, in order to stockpile the most shark fins, sharks are often captured, finned and abandoned. Sharks without fins cannot swim in the sea and will bleed to death.	*"It's easy to picture and imagine the scenario sharks are facing; makes me feel sad and empathetic to sharks."*
About 100 million sharks are being killed every year due to people's demand on consumption. And 94.9 percent of shark species cannot maintain population stability if the killing continues. The consumption of shark fins will lead to the extinction of sharks which have lived on this planet for over 400 million years. Please do not consume shark fin.	*"I fear about shark's situation and sense the urgency to do something about it."*

Concepts such as **"harvested sustainably"** were problematic for respondents in terms of understanding the message. Lack of emotional attachment and connection were also seen as not effective.

Singapore

In Singapore, messages containing **shocking statistics or facts** were seen as more convincing to respondents, leaving a stronger impression on them.

Preferred messages	Selected verbatims*
Many shark species are top predator in the oceans. Without sharks, the marine food chain could collapse. Say NO to shark fins to maintain a healthy ocean.	*"It's effective since it involves not only sharks but all other marine species."*
About 100 million sharks are being killed every year due to people's demand on consumption. And 94.9 percent of shark species cannot maintain population stability if the killing continues. The consumption of shark fins will lead to the extinction of sharks which have lived on this planet for over 400 million years. Please do not consume shark fin.	*"I was shocked by the number of 100 million; I thought it's around 50 million only."* *"The rate of loss can be provided to make it even more convincing."*

However, respondents did not think the messages were relevant and connected to their daily lives and cultures, and believed **stronger linkage to Singaporeans was needed** to enhance its effects.

*Responses have been selected to show examples of some of the most mentioned topic areas.



4. Manta Ray / Mobula Ray Gills Consumption

© Nat Geo

Introduction to the Section: Manta and Mobula Ray Gills Consumption

Background and Objective

The state of affairs of mobula ray gill consumption has always been unclear. Compared to sharks, less research has been conducted and this species has not gained as much attention, although it is used an ingredient in Traditional Chinese Medicine (TCM), and this has increased in importance in recent years.

In order to uncover the key drivers of consumption and consumption behavior, some questions focusing on mobula ray gills were added at the end of the questionnaire, and were asked to respondents who indicated that they had ever consumed manta and devil ray / mobula ray gills (as ingredients in Traditional Chinese Medicine).

Questionnaire

More specifically, the questions focusing on mobula ray gills consumption are the following:

- Screening questions, “Ever” and “Past 12 Months” consumption of manta and devil ray / mobula ray gills (as an ingredient in Traditional Chinese Medicine) – *Based on the General Population Representative Sample*
- Questions on TCM containing manta ray / mobula ray gills: frequency of usage in the past 12 months, drivers of usage, general perception, intended consumption in the future, intended recommendation – *Based on Ever Consumers of TCM containing mobula ray gills*

Respondents and Sample

The following samples of Ever Consumers of TCM containing mobula ray gills were obtained:

- *n*=229 in Mainland China,
- *n*=71 in Hong Kong,
- *n*=59 in Taiwan,
- *n*=129 in Singapore

Summary – Mobula Ray Gills Consumption

TCM containing mobula ray gills is most popular in Mainland China, where it is associated with a significantly higher number of health benefits versus the other markets. In Hong Kong, Taiwan and Singapore, usage is more driven by general reasons, such as being "more efficient than other medicines." However, consumers strongly agree that consuming TCM containing mobula ray gills may lead to species extinction and that a ban is necessary.

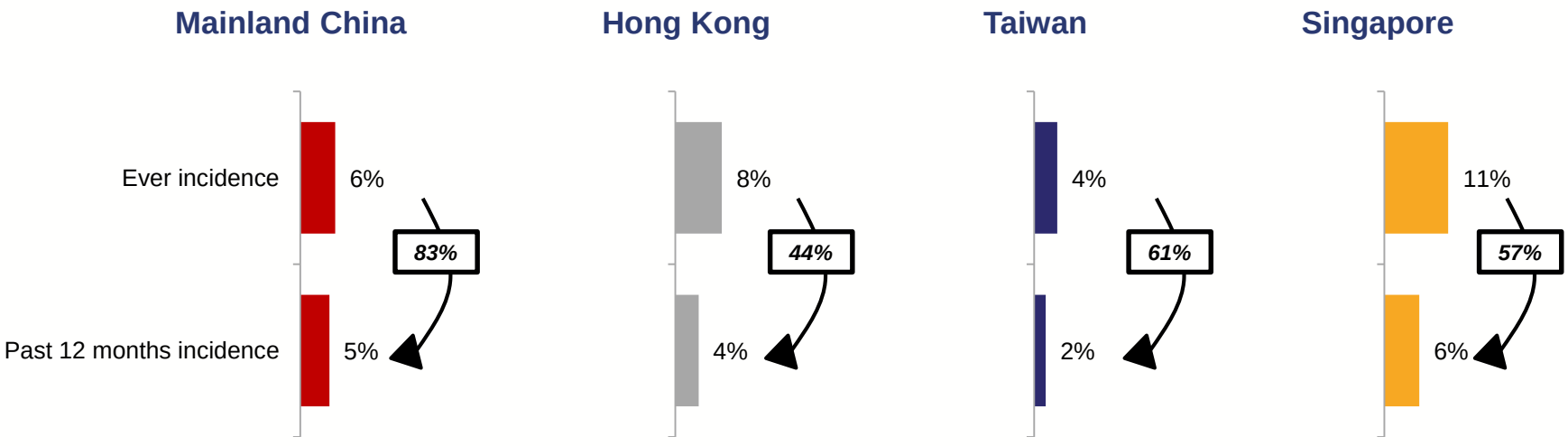
Amongst **EVER Consumers** of TCM containing mobula ray gills

	Mainland China	Hong Kong	Taiwan	Singapore
Incidence Amongst total population	Ever: 6% Past 12 months: 5%	Ever: 8% Past 12 months: 4%	Ever: 4% Past 12 months: 2%	Ever: 11% Past 12 months: 6%
% **Monthly usage** of TCM incl. mobula ray gills	21%	5%	15%	13%
Top drivers of usage of TCM containing mobula ray gills	**1. Increases fertility** 2. Body detoxification 3. More efficient than other medicines	**1. Enhances blood circulation** 2. More efficient than other medicines 3. Preventative	**1. More efficient than other medicines** 2. Preventative 3. Recommended by a friend	**1. Body detoxification** 2. More efficient than other medicines 3. Recommended by a friend
Average number of benefits perceived	4.9	2.6	3.0	2.6
% Agreement with (prompted) facts on mobula ray gills (highest agreement scores)	Species extinction May be substituted in TCM	Species extinction Government ban is necessary	Species extinction Government ban is necessary	Species extinction May be substituted in TCM
Future Intention to use (% Very likely/likely)	43%	28%	22%	24%
Intention to recommend (% Very likely/likely)	47%	15%	19%	23%

Incidence of TCM Containing Mobula Ray Gills

Based on General Population Representative Sample

TCM containing mobula ray gills has a fairly low past 12 months incidence overall. The conversion rate of ever usage into past 12 months usage indicates that consumption behavior remains similar over time in Mainland China, but the lower conversion rate in Hong Kong, Taiwan and Singapore suggests some behavior change in the past year or earlier.



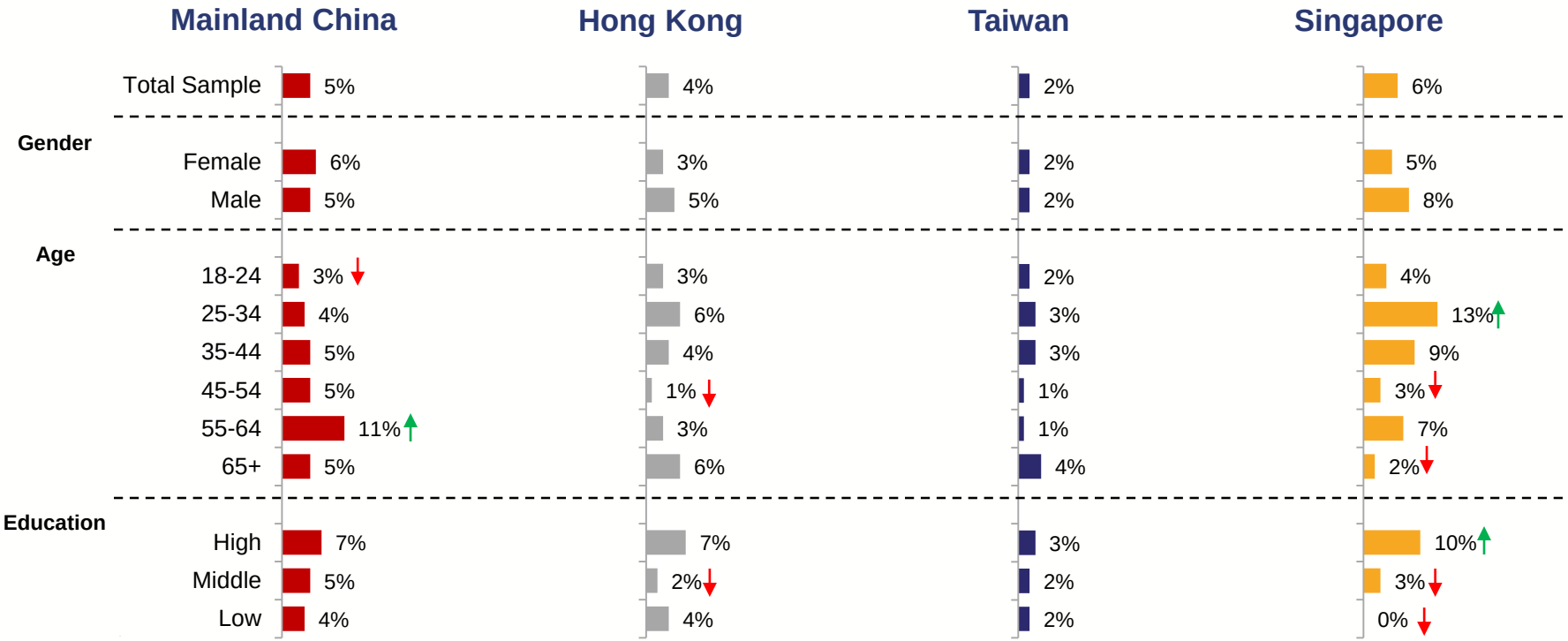
Q1. Have you ever eaten any of the following foods? Manta and devil ray / Mobula ray gills (as ingredient in TCM), Q2. In the past 12 months, have you eaten anything of the following, even if only once? Manta ray / Mobula ray gills (as ingredient in TCM) – **Weighted data**

Base: Total General Population Representative Sample, *n*=3543 in Mainland China, *n*=859 in Hong Kong, *n*=1541 in Taiwan, *n*=1156 in Singapore, *Note: Incidence levels not comparable with other surveys*

Past 12 Months Incidence – TCM including Mobula Ray Gills

Based on General Population Representative Sample

Past 12 months usage of TCM containing mobula ray gills is not gender-specific. In Mainland China, it is significantly higher among the 55–64 age group, while millennials have a significantly lower consumption than the average population. However, in Singapore, consumers aged 25–34 drive the consumption, while those aged 65+ have a marginal rate of consumption. In Hong Kong and Taiwan, incidence is very low across all demographics.



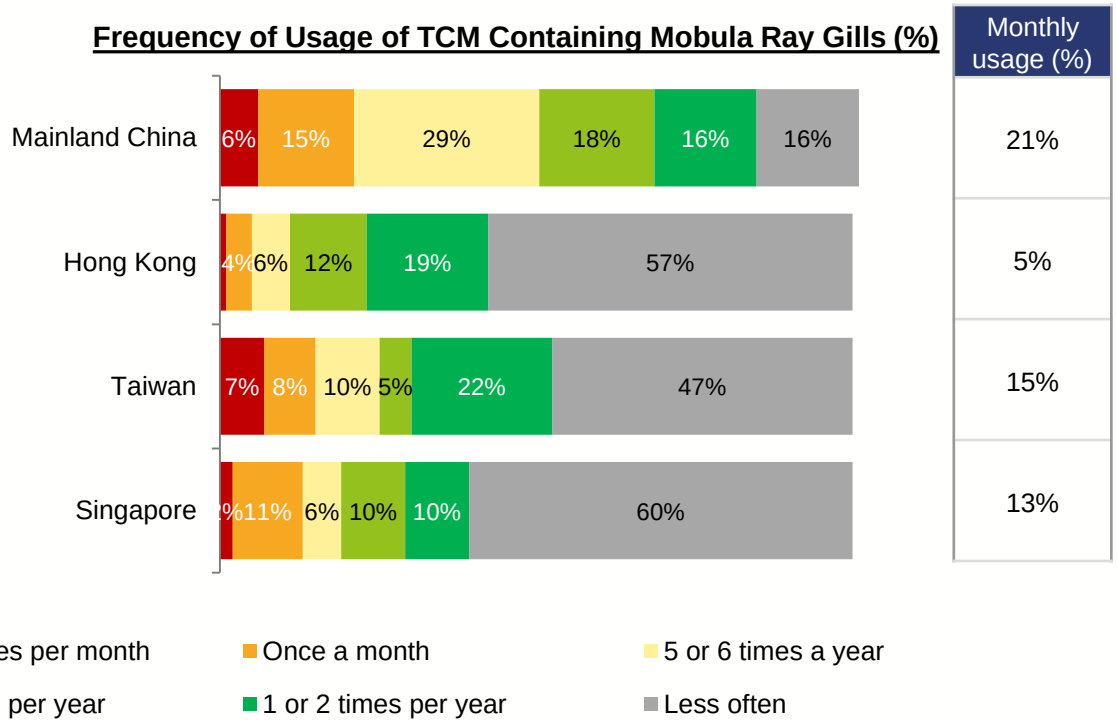
Q1. Have you ever eaten any of the following foods? Manta and devil ray / Mobula ray gills (as ingredient in TCM) Q2. In the past 12 months, have you eaten anything of the following, even if only once? Manta ray / Mobula ray gills (as ingredient in TCM) – **Weighted data**

Base: Total General Population Representative Sample, *n*=3543 in Mainland China, *n*=859 in Hong Kong, *n*=1541 in Taiwan, *n*=1156 in Singapore

↑ ↓ Statistically significant difference: higher / lower at 95% confidence level vs Total - *Note: Incidence levels not comparable with other surveys*

Frequency of Usage of TCM Containing Mobula Ray Gills

TCM containing mobula ray gills is used the most frequently in Mainland China compared with the other markets, i.e., one in five mobula ray gills consumers use it monthly.



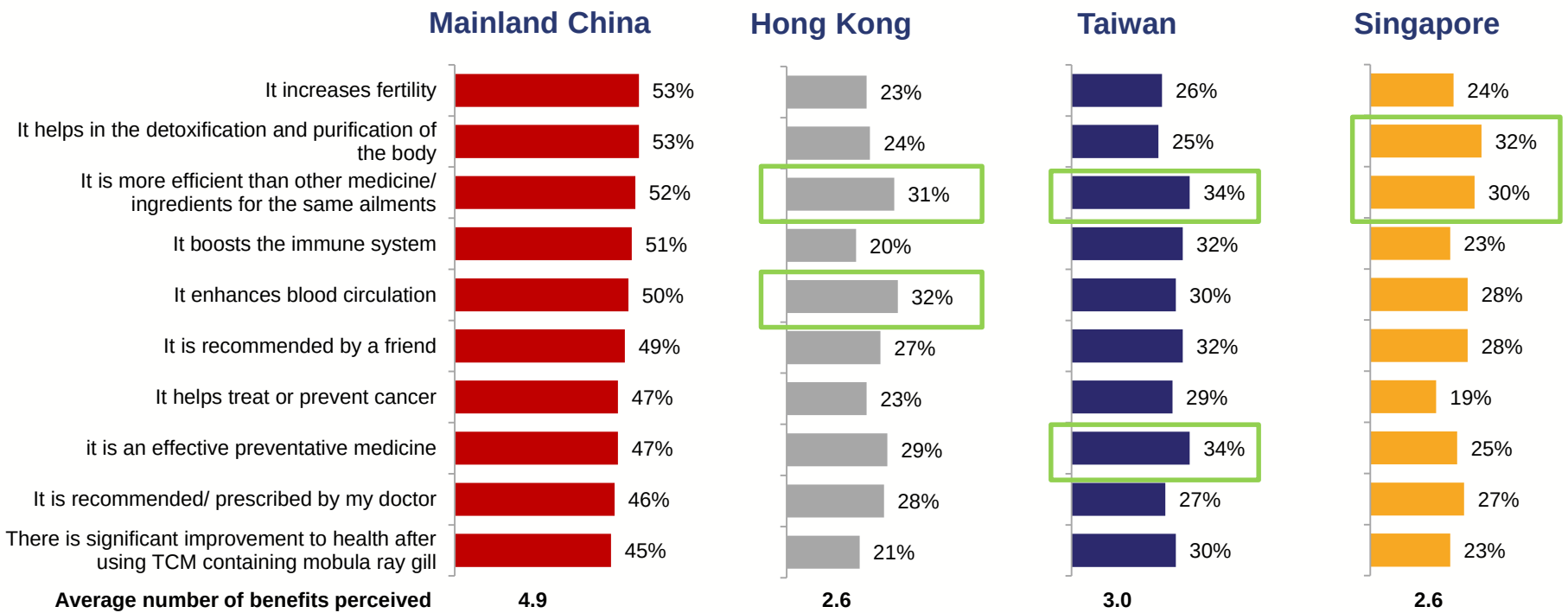
Q30. How often would you say you used Traditional Chinese Medicine containing manta ray / mobula ray gills in the past 12 months? – **Weighted data**

Base: Ever users of TCM containing mobula ray gills: *n*=229 in Mainland China, *n*=71 in Hong Kong, *n*=59 in Taiwan, *n*=129 in Singapore

Drivers of Usage of TCM Containing Mobula Ray Gills

TCM containing mobula ray gills is associated with several specific health benefits (i.e., increases fertility, body detoxification, boosts immune system, etc.) in Mainland China, while in Hong Kong, Taiwan and Singapore, usage is driven more by general reasons, such as being “more efficient than other medicines” and being “a preventative medicine.”

I use Traditional Chinese Medicine Containing Manta ray / Mobula Ray Gills Because… (% Top-2-Box, 4 + 5 Strongly Agree)



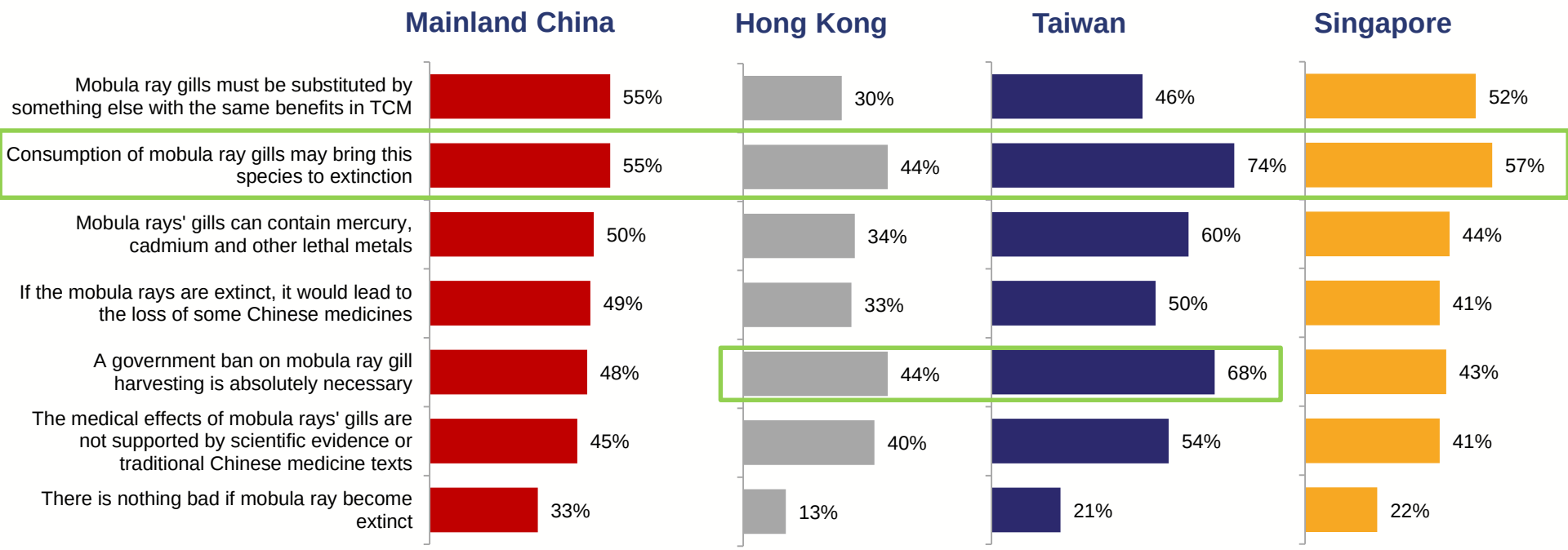
Q31. Now we will focus on Traditional Chinese Medicine containing manta ray / mobula ray gills. Please indicate to what extent you agree or disagree with each of the following statements. Please use a scale of 1 to 5 where 1 means that you “strongly disagree” and 5 means that you “strongly agree” with the statement. – **Weighted data**

Base: Ever users of TCM containing mobula ray gills: *n*=229 in Mainland China, *n*=71 in Hong Kong, *n*=59 in Taiwan, *n*=129 in Singapore

General Perception of TCM Containing Mobula Ray Gills

Although consumers associate various health benefits with mobula ray gills, the strongest association is its potential impact on species extinction. Consumers are also generally in favor of a government ban on mobula ray harvesting, particularly in Taiwan.

Perception of Manta Ray / Mobula Ray Gills (% Top-2-Box, 4+5 Strongly Agree)



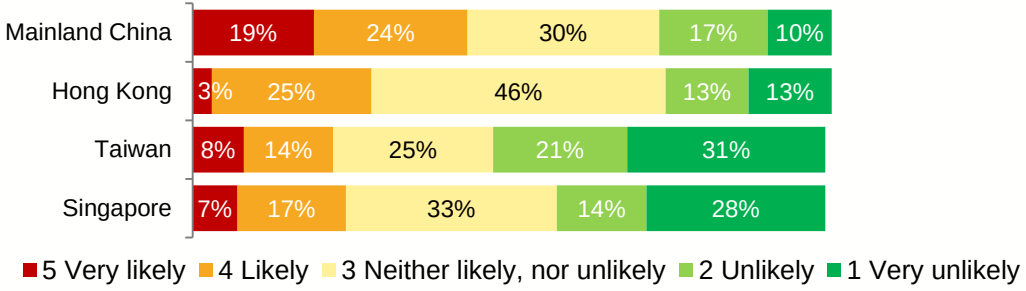
Q32. Now we are going to focus on mobula ray and mobula ray gills in general. Please indicate to what extent you agree or disagree with each of the following statements. Please use a scale of 1 to 5 where 1 means that you "strongly disagree" and 5 means that you "strongly agree" with the statement. – **Weighted data**

Base: Ever users of TCM containing mobula ray gills: *n*=229 in Mainland China, *n*=71 in Hong Kong, *n*=59 in Taiwan, *n*=129 in Singapore

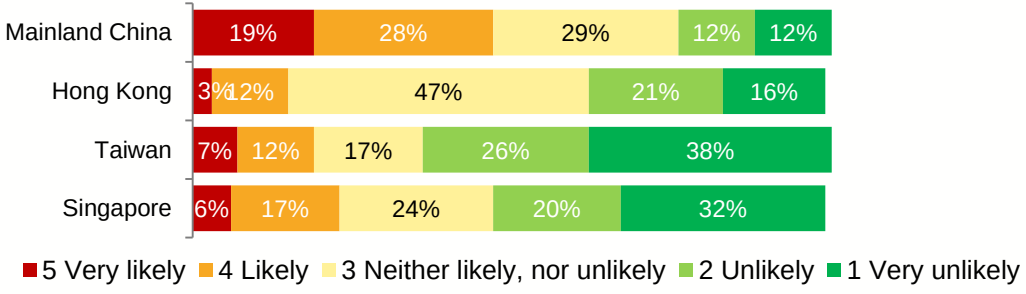
Future Consumption/Recommendation of TCM containing Mobula Ray Gills

There is a positive correlation between a relatively high future intention to use TCM containing mobula ray gills in Mainland China (i.e., one in two consumers) and the intention to recommend this medicine to family and friends. A similar correlation is observed in Taiwan and Singapore (and less so in Hong Kong). This suggests that intenders are also willing to influence usage.

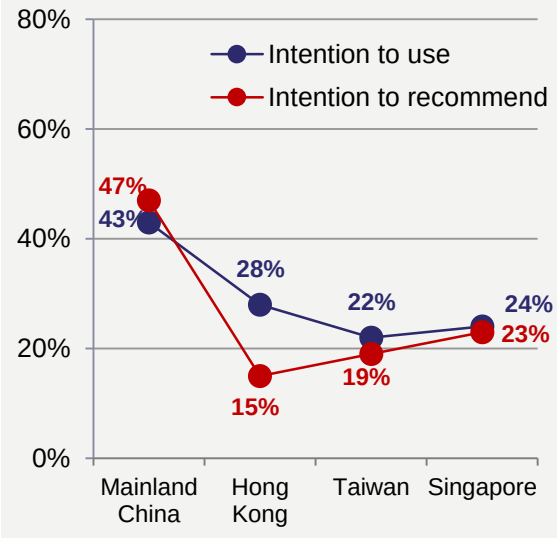
Intention to Use TCM Containing Mobula Ray Gills in the Future (%)



Intention to Recommend Using TCM Containing Mobula Ray Gills in the Future (%)



Top-2-Box Scores
% "5 Very likely + 4 Likely"



Q33. How likely will you be to use Traditional Chinese Medicine containing manta ray / mobula ray gills in the future? Q34. How likely will you be to recommend using Traditional Chinese Medicine containing manta ray / mobula ray gills to family members or friends in the future? – **Weighted data**

Base: Ever users of TCM containing mobula ray gills: *n*=229 in Mainland China, *n*=71 in Hong Kong, *n*=59 in Taiwan, *n*=129 in Singapore



5. Appendix

- Acknowledgements
- Methodological Details
- Additional Information Slides

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Acknowledgments

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In addition, the authors thank colleagues from TRAFFIC and WWF networks for report review feedbacks and report publication.

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References

Organization	Topic	Year
WildAid	Sharks in Crisis	Feb-18
Nature	**Article:** DNA analysis of traded shark fins and mobulid gill plates reveals a high proportion of species of conservation concern	Aug-17
Frontiers	Article**:** Chinese Trader Perceptions on Sourcing and Consumption of Endangered Seafood	Jun-17
Current Biology - MiniReview	**Article:** Challenges and Priorities in Shark and Ray Conservation	Jun-17
TRAFFIC	The Shark and Ray Trade in Singapore	May-17
WildAid	Shark Fin Demand in Thailand	2017
BLOOM	Rapid survey of mobulid gill plate trade and retail patterns in Hong Kong and Guangzhou markets	Sep-16
TRAFFIC	Shark fin and mobula ray gill plate trade in Mainland China, Hong Kong and Taiwan	Jun-16
BLOOM	Comparison Report: The 2009 and 2014 surveys on shark consumption habits and attitudes in Hong Kong	Jun-16
Hong Kong Shark Foundation	Chinese New Year Hong Kong Restaurant Shark Fin Survey 2016	2016
GreenPeace	Made in Taiwan: Government Failure and Illegal, Abusive and Criminal Fisheries	Apr-16
Aquatic Conservation	**Article:** Characterization of the trade in manta and devil ray gill plates in China and South-east Asia through trader surveys	Mar-16
WWF	SINGAPORE: Shark Fin Consumer Survey	Feb-16
BLOOM	Survey on shark consumption habits and attitudes in Hong Kong 2009/2010	Aug-15
Biological Conservation	**Article:** Chinese market responses to overexploitation of sharks and sea cucumbers	Jan-15
WildAid	Evidence of Declines in Shark Fin Demand in China	Jul-14
WildAid	The continuing threat to manta and mobula rays: 2013-14 market surveys, Guangzhou, China	2014
China Aquatic Products Processing and Marketing Association	China Sharks Industry Report	Apr-13
WildAid	Manta Ray of Hope 2011 Report: The Global Threat to Manta and Mobula Rays	2011

Detailed Methodology: Weighting, Rounding and Sample Quality

Weighting

- After fieldwork was closed and the final data quality checks were performed (e.g., removal of bad records with incomplete answers), a weighting by age, gender and education was applied on the total sample in order to fully match the quotas and to correct (small) deviations in the end sample compared to the quota set.
- The reason for weighting the data after fieldwork – even if the quotas have been well monitored – is to fully align the demographic sub-groups with the quotas, in order for the total sample to be representative of the target population by age, gender and education. Income has been monitored in order to align with the average income by market, but was not used as a hard quota (meaning that the income levels can be slightly lower/higher than the average income by market).
- This report presents only weighted results/data, and all the sample sizes indicated are weighted samples.

Questionnaire and Respondents Quality

- For the respondents to answer honestly and be “neutral” when they are qualified for the survey, it is important that the survey topic was not mentioned in the invitation. The email received by the potential respondents only mentions the general topic of “lifestyle and eating habits.” This technique is in line with other similar methods employed in surveys around sensitive topic areas.
- After the respondents answered the screening questions and if they qualified for this survey, the first question in the main questionnaire asked if they have ever consumed a list of foods, in which shark fin soup was included. This was to avoid putting too much emphasis on the topic of shark fin soup in the beginning of the questionnaire.

Detailed Methodology: Reported Data and Sample Sizes

Reported Data

- The data is weighted based on demographic variables, i.e., age, gender and education. It is not weighted based on shark fin soup consumption, as these incidence numbers are outputs of the survey and should be based on a representative sample (for each chart, the sample is indicated at the bottom of the slide, i.e., general population representative sample, shark fin soup consumers, etc.).
- For questions with answers on a 5-point scale, the top-2 box is reported in some cases. The top-2 box is the sum of the scores for code 4 and code 5, e.g., a sum of all the positive responses.
- Several sub-groups have been analyzed in the survey sample. More precisely, the data has been analyzed at total level by market, and more specifically by demographic groups, behavioral/attitudinal groups (i.e., travelers), consumer segments, or city tiers in Mainland China. In case there are significant differences, results per sub-group are reported.

Rounding

- All numbers and percentages shown at first decimal in tables and graphs in this report are the result of rounding. Rounding to the nearest integer has been applied and may add up to more or less than 100%.
- To illustrate, if the digit in the tenths place is less than 5, then the number is rounded down (e.g. 20.2% becomes 20%). If the digit in the tenths place is 5 or greater, then the number is rounded up (e.g. 20.5% becomes 21%).
- In this way, the rounded total is consistent with the sum of the rounded addends (except for small rounding differences), and may add up to more or less than 100% (+/- 1%point).

Sampling Methods

Quota Sampling

- The Quota Sampling is a non-probability sampling method wherein the population is divided into mutually exclusive sub-groups from which the sample items are selected on the basis of a given proportion (i.e., the population can be divided by age, gender, region, etc.)
- The defining characteristic of a quota sample is that the researcher deliberately sets the proportions of levels or strata within the sample. This is generally done to insure the inclusion of a particular segment of the population. The proportions may or may not differ dramatically from the actual proportion in the population *(Note: in this research, the proportions of the general population representative sample are fully aligned with the actual population proportions for age, gender and education).*

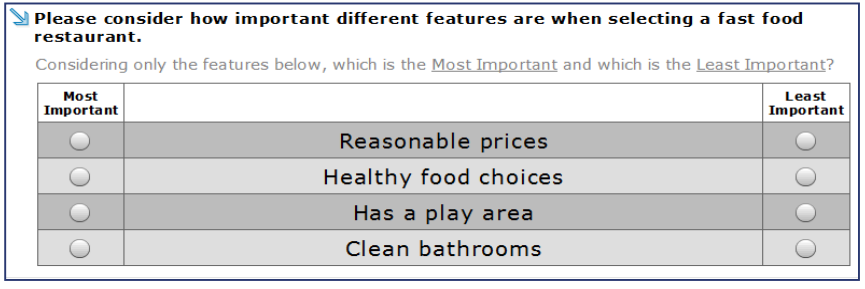
“River” Sampling

- River sampling is an online sampling method that drives potential respondents to an online portal where they are screened for studies in real-time. Qualified respondents are then randomly assigned to a survey.
- People are sourced, most often, from ads or pop-ups on social media and other websites. The screening questions ensure that the respondents match the demographic requirements.
- Hence, river sampling is a convenience sample of people attracted by an ad who are willing to complete a survey for some type of reward.
- *Note: River Sampling was not used in this research*

Uncovering Drivers and Deterrents of Consumption Using the MaxDiff Technique

MaxDiff Description

- MaxDiff (Maximum Differentiation Scaling) builds upon a long-established theory about how people make choices. It assumes that respondents' choices are rather relative/comparative than absolute.
- MaxDiff is an approach for capturing relative scores (e.g., importance, preference, agreement, attitude) for a set of items.
- With MaxDiff, respondents are shown a set of items and are asked to indicate the item that best describes their opinion, and the item that least describes their opinion, for example:



Please consider how important different features are when selecting a fast food restaurant.

Considering only the features below, which is the Most Important and which is the Least Important?

Most Important		Least Important
○	Reasonable prices	○
○	Healthy food choices	○
○	Has a play area	○
○	Clean bathrooms	○

- The items are grouped using MaxDiff algorithm, in order to ensure that each item and each pair of items is shown an equal number of times. Usually respondents see each pair of items at least two or three times. A list of 20–21 attributes typically requires from 10 to 16 sets/screens.
- Item scores are then estimated on a respondent level using a Hierarchical Bayes (HB) method, and transformed to a numeric scale, e.g., 5- or 10-point scale. The larger the score, the higher the importance of the item for this particular respondent.

Rationale for Using MaxDiff in this Survey

Reasons for Using MaxDiff in this Research

Using MaxDiff provides a better differentiation between the item importance compared to rating scales, mainly because:

- With rating scales, there can be many straight-line answers, such as giving ratings of 3 to all 20 items on a 5-point scale.
- Cultural biases in the use of the scale. For example, respondents in Mainland China tend to use the top portion of the scale, while respondents in Germany tend to use the middle or bottom portions of the scale.
- Research has shown that importance scores obtained with MaxDiff range from 0 to 10 compared to the range from 5 to 8 obtained with stated importance ratings (e.g., everything is important).

What Can We Do with MaxDiff Scores?

MaxDiff scores could be reported in a similar way to reporting rating scales (e.g., averages, percentages, crosstabs, bar charts). With MaxDiff, we can measure importance, preference, performance and many other variables.

MaxDiff scores, if they result from “most important” versus “least important” scales, could replace other predictive modeling, e.g., regression and path analyses which we normally use to extract derived importance scores. This is due to the fact that this method, in this particular case, already indicates importance in driving the desired outcome. MaxDiff scores allow any for kind of statistical analysis we could consider doing with responses obtained using rating scales.

Design and Analyses – Path Analysis (Details)

Factors Definition
For the purpose of the path analysis, several drivers and attributes were grouped into bigger clusters (using factor analysis) to surface statistical patterns and facilitate interpretation of the analysis. The clusters obtained were defined as:

- **Conservation:** Based on attributes from Q9:
  - ✓ It is essential to protect sharks from extinction
  - ✓ A government ban on shark fin harvesting is absolutely necessary
  - ✓ Shark fins are harvested in a very cruel way
- **Health benefits:** Based on attributes from Q9:
  - ✓ Eating shark fin soup brings luck and longevity
  - ✓ Shark fins nurture and cure skin conditions
  - ✓ Shark fin soup enhances manliness and sex drive
- **Social pressure (to consume and to avoid consuming):** Based on attributes from Q9:
  - ✓ Shark fin soup is tasteless
  - ✓ When shark fin soup is included in a banquet, I prefer not to eat it, but I don't refuse it not to create embarrassment
  - ✓ Shark fin soup in a set dinner can easily be substituted by something else of the same value
  - ✓ People I respect have stopped eating shark fin soup altogether
  - ✓ Shark fins contain high concentrations of mercury and other toxins
  - ✓ The tradition of shark fin soup will soon fade out
  - ✓ Often shark fin soup offered at restaurants is fake, i.e., does not contain shark fins
  - ✓ I don't particularly like eating shark fin soup but I do so to please others
  - ✓ Shark fin dishes are troublesome to cook

Design and Analyses – Path Analysis (Details)

Factors Definition, continued

- **Symbolic value:** Based on attributes from Q9:
  - ✓ Serving my guests shark fin soup in banquets makes me look good
  - ✓ Serving a shark fin dish is a sign of respect
  - ✓ Offering shark fin soup indicates wealth
  - ✓ Shark fin soup is served in order to impress business partners
  - ✓ Serving a shark fin dish is a tradition in the Chinese culture
  - ✓ Shark fin soup is served to please the elders, like my parents or grandparents
- **Uniqueness:** Based on attributes from Q9:
  - ✓ I would be disappointed if I am served a substitute dish instead of shark fin soup
  - ✓ When buying shark fin soup, quality is the most important
  - ✓ Shark fin soup tastes great
  - ✓ Shark fin has a special texture that cannot be replaced by anything else
- **Intended consumption before:** Based on:
  - ✓ Q12. Intention to include or recommend shark fin soup in the menu of a banquet or other eating occasion
  - ✓ Q5. Would you choose to eat more frequently or less frequently any meal including shark fin soup if you had the opportunity?
  - ✓ Q7. How often do you decide yourself to include shark fin soup in the meals that you help to plan or organize?
- **Consumption after:** Based on Q15:
  - ✓ Refuse eating shark fin soup
  - ✓ Try to convince your friends / colleagues not to eat shark fin soup
  - ✓ Refuse including shark fin soup in the menus you prepare
  - ✓ Try to convince your parents/grandparents/elders not to eat or expect serving shark fin soup

Margin of Error

Margin of Error: Definition

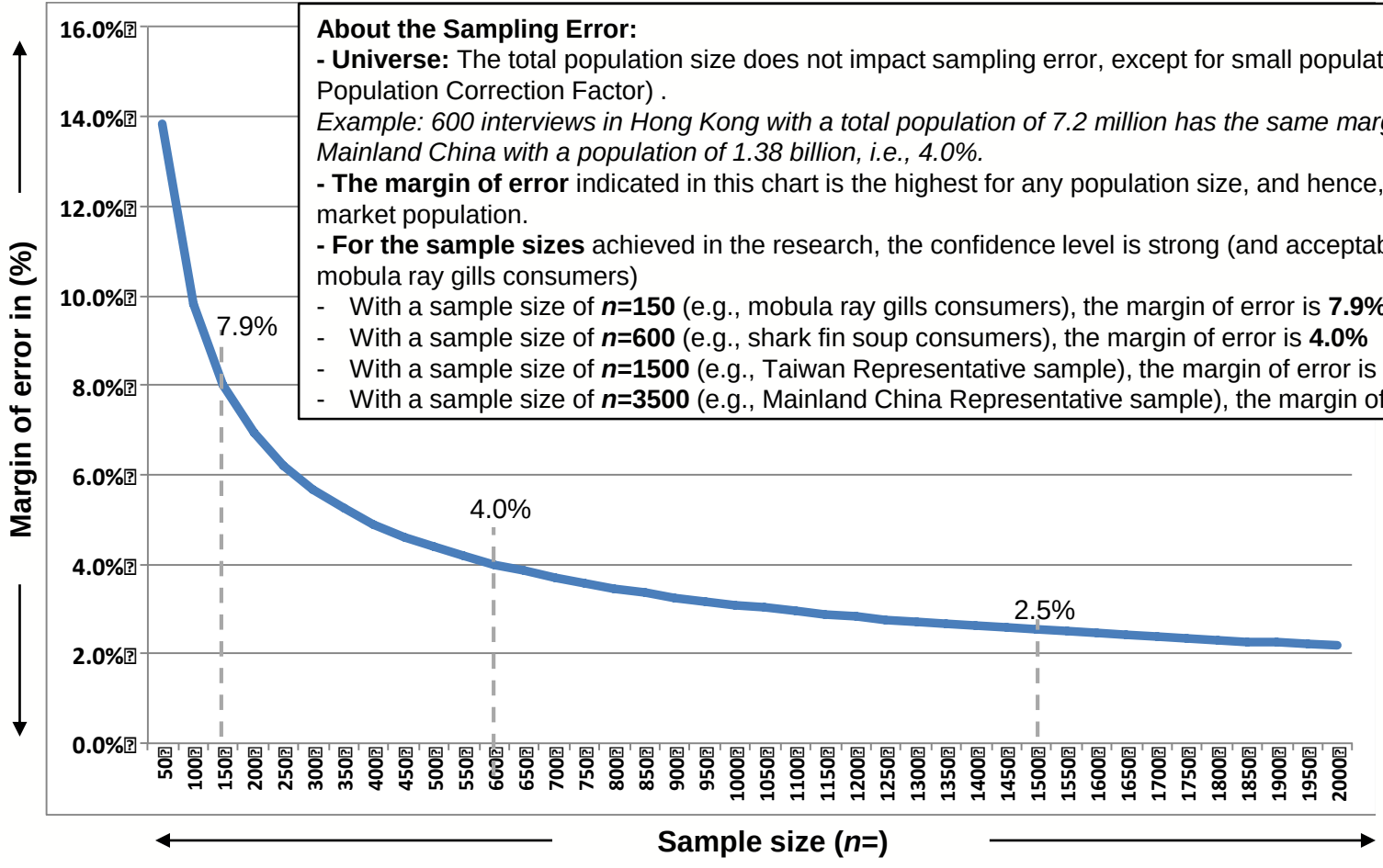
- In reports on public opinion polls, a “margin of error” is often stated. The margin of error estimates the accuracy of the sample compared with the entire population. A margin of error of plus or minus 3% at a 95% confidence interval would mean that if we examined 100 truly random samples of a particular size, in 95 of such samples the figures would be within three percentage points of the “true” answer that would result from interviewing the entire population. Generally speaking, the larger the sample, the lower the margin of error (see illustration in the next slide).

- However, calculated margin of error is valid only upon the assumption that the sample is truly random, with every member of the population having an equal chance of being included in the survey. This assumption is not met in the majority of contemporary opinion polls, because the samples are drawn using complex systems of stratification and quotas or are obtained from panels of volunteers, as in the case of this study.

- The survey samples for the current study are not strictly random and, therefore, no estimates of sampling error can be calculated. Even though margin of error is not applicable to non-random samples, it can be used as a rough tool to assess patterns in the collected data. For example, a five percentage point difference between males and females in a sample of 1,000 respondents may indicate a pattern, while a ten-point difference in opinion between smaller demographic groups may not.

- The sampling methodology for this study was tailored to the overall objective of understanding the drivers of demand for ivory and how to reduce that demand. Industry standards and best practices suited to geographic realities have been applied throughout.

Margin of Error in Surveys



About the Sampling Error:

- Universe: The total population size does not impact sampling error, except for small populations (Finite Population Correction Factor) .

Example: 600 interviews in Hong Kong with a total population of 7.2 million has the same margin of error as in Mainland China with a population of 1.38 billion, i.e., 4.0%.

- The margin of error indicated in this chart is the highest for any population size, and hence, is valid for any market population.

- For the sample sizes achieved in the research, the confidence level is strong (and acceptable for the sample of mobula ray gills consumers)

- With a sample size of ***n*=150** (e.g., mobula ray gills consumers), the margin of error is **7.9%**
- With a sample size of ***n*=600** (e.g., shark fin soup consumers), the margin of error is **4.0%**
- With a sample size of ***n*=1500** (e.g., Taiwan Representative sample), the margin of error is **2.5%**
- With a sample size of ***n*=3500** (e.g., Mainland China Representative sample), the margin of error is **1.7%**

What Does it Mean for the Sample Sizes in this Report?

1. Above *n*=1000, the reduction in the margin of error is rather limited: increasing from *n*=1200 to *n*=2000 reduces the maximum margin of error from 3.1% to 2.1%.

2. However, when we look at margins by age or any other demographic sub-group, then the differences are larger: a sample size of *n*=250 has a maximum margin of error of 6.2 %, while for *n*=150, it is 8.0%

3. This also applies if we want to look at other smaller sub-segments, such as consumers with a low incidence level (e.g., mobula ray gills consumers).

4. As a whole, the sub-groups presented in this report have all a robust sample size that allow analysis.

ADM Capital Foundation is an impact driven foundation focused on making change in Asia. Through research, ADM Capital Foundation identifies environmental challenges then work towards solutions across five key areas: marine ecology, water security, air quality, wildlife trade and forestry conservation finance.

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www.traffic.org

WWF is one of the world‘s largest and most respected independent conservation organizations, with over 5 million supporters and a global network active in over 100 countries. WWF’s mission is to stop the degradation of the Earth‘s natural environment and to build a future in which humans live in harmony with nature, by conserving the world’s biological diversity, ensuring that the use of renewable natural resources is sustainable, and promoting the reduction of pollution and wasteful consumption.
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