Public Attitudes towards Nuclear Safety Emergency Governance in Hong Kong

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Outline

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1. Background

Public Attitudes Towards Nuclear Safety Governance

- Part of the larger project that investigates the public attitude towards Nuclear Safety Contingency Governance in Hong Kong.

- The goal of this study is to investigate how the perception of the risk of nuclear safety is affected by the following factors.

1. Trust in the government
2. Knowledge in nuclear energy/safety
3. Stakeholder Engagement

Risk Perception – Slovic Fischhoff and Lichtenstein (1982)

1. What is risk perception research?
   - Risk perception research aims to elicit opinions about risk and provides the basis for understanding and anticipating public responses to hazards

2. Why risk perception research?
   - Risk perception concerns the judgments people make when they are asked to characterize and evaluate hazardous activities and materials
   - Knowledge of how people perceive risk can be used to improve communication of risk among citizens, technical experts and policy makers

Psychometric Paradigm (1)

1. Fischhoff et al. (1978): risk perception is multidimensional
2. Risk means different things to different people - public risk perception often contrasts sharply with expert assessments of risks (e.g. experts may rate risk accordingly to mortality rates)
3. Perceived risk moderately declines with an increase in perceived benefit
4. If risks are perceived to be high they are considered to be less publicly acceptable

Psychometric Paradigm (2)

1	**Voluntariness** (voluntary-involuntary)	Do people get into these risky situations voluntarily?	**Dreaded**
2	**Immediacy of effect** (immediate-delayed)	To what extent is the risk of death immediate?	**Unknown**
3	**Knowledge about risk** (known precisely-not known)	To what extent are risks known precisely by the persons who are exposed to those risks?	**Unknown**
4	**Knowledge about risk** (known precisely-not known)	To what extent are the risks known to science?	**Unknown**
5	**Control over risk** (uncontrollable-controllable)	If you are exposed to the risk of each activity or technology, to what extent can you, by personal skill or dilligence, avoid death while engaging in the activity?	**Dreaded**
6	**Newness** (new-old)	Are these risks new, novel ones, or old, familiar ones?	**Unknown**
7	**Chronic-catastrophic** (chronic-catastrophic)	Is this a risk that kills people one at a time (chronic risk) or a risk that kills large numbers of people all at once (catastrophic risk)?	**Dreaded**
8	**Common-dread** (common-dread)	Is this a risk that people have learned to live with and can think about reasonably calmly, or is it one that people have great dread for – on the level of a gut reaction?	**Dread**
9	**Severity of consequences** (certain not to be fatal-certain to be fatal)	When the risk from the activity is realized in the form of a mishap or illness, how likely is it that the consequence will be fatal?	**Dreaded**

Trust (1)

1. Trust generally refers to an assured reliance on the character, ability, strength, or truth of someone or something
2. Slovic (1993): risk perception strongly associated with trust
    1. Low trust = High risk
    2. Ten times harder to win trust than to lose trust

Trust (2)

1. Metlay (1999): trust reflects both 'affective' elements and 'institutional competence' elements

    1. Openness – provides all relevant information
    2. Reliability – tries hard to keep promises
    3. Integrity – takes actions consistent with words
    4. Credibility – ignores the views of scientists
    5. Fairness – committed to impartial decision making
    6. Caring – can be counted on to do the right thing
    7. Competence – having necessary skills and expertise

Public Engagement (1)

1. Public engagement can take place through different mechanisms and is thought to provide a basis for increasing public trust

2. Lofstedt (2005): public participation is seen as a prescriptive solution to public distrust particularly where risks are distributed unfairly

Public Engagement (2)

1. Arnstein's (1969) well known 'ladder of engagement' differentiates between lower and higher forms of engagement that vary in levels of participation and empowerment

LEVEL 8	Citizen control
LEVEL 7	Delegated power
LEVEL 6	Partnership
LEVEL 5	Placation/Concession
LEVEL 4	Consultation
LEVEL 3	Informing
LEVEL 2	Therapy
LEVEL 1	Manipulation

Questions

1. What dimension(s) of risk characteristics affect overall perceived risk of a nuclear accident?
2. What dimension(s) of trustworthiness of HKSAR government affect overall perceived trust in nuclear safety governance?
3. What is the relationship between the overall perceived risk of a nuclear accident and the overall perceived trust in nuclear safety governance?
4. Which engagement level can increase trust?

2. Research Design & Questions

Research Design

- Telephone survey conducted by human interviewers
- Administered by the Public Opinion Programme, University of Hong Kong
- Random sampling
- Response rate: 64.7%
- 1032 successful cases, aged 18 or above
- Duration: Dec 2013 – Jan 2014
- Age and gender distributions re-adjusted based on the provisional figures obtained from the Census and Statistics Department, HKSAR government.

3. Results

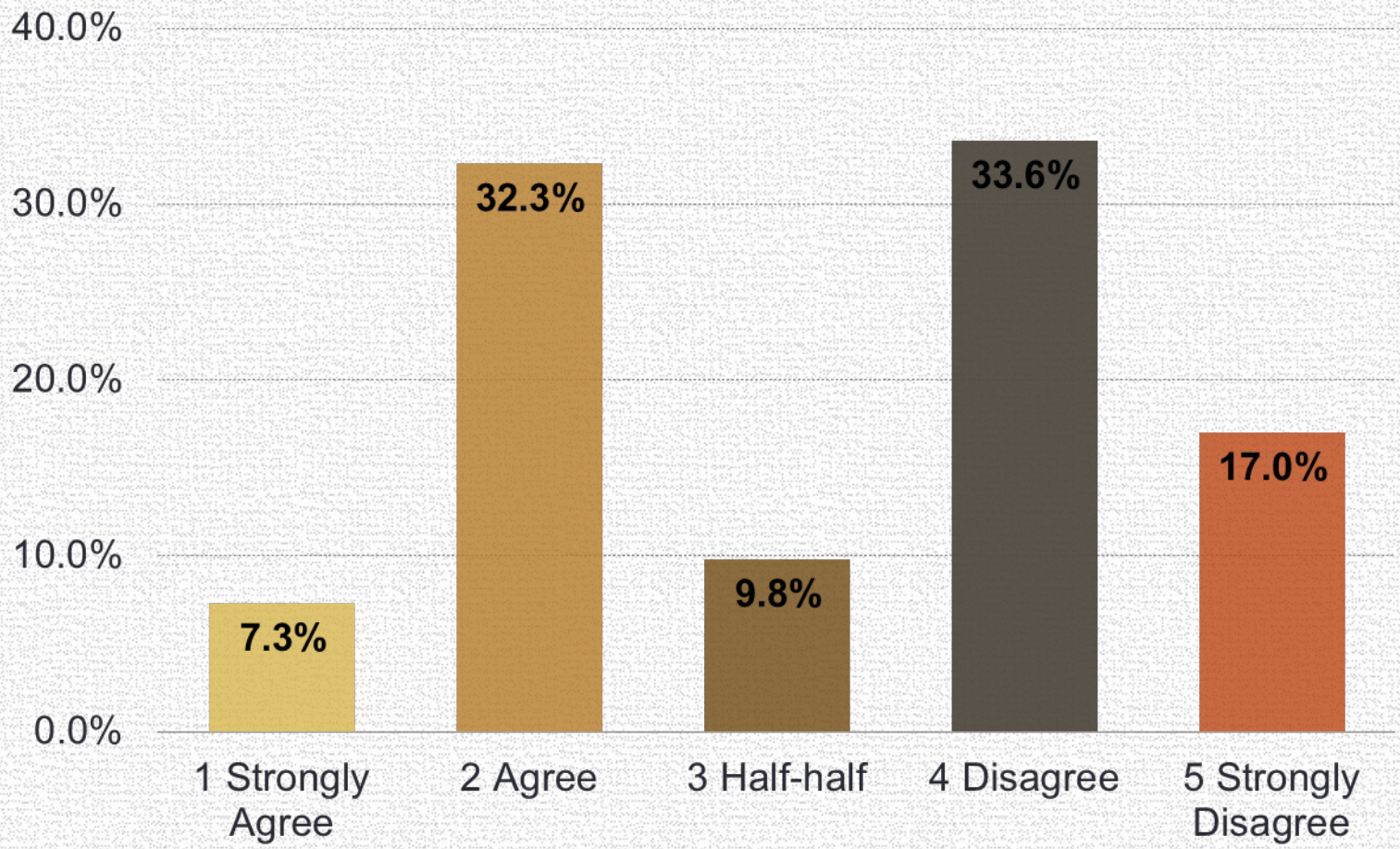
Survey Questions

- Part A: Perception on Risks of a Nuclear Accident
- Part B: Perception on Government's Trustworthiness in Nuclear Safety Governance
- Part D: Levels of engagement and the trust on the nuclear safety governance
- Part E. Knowledge Questions on Nuclear Safety

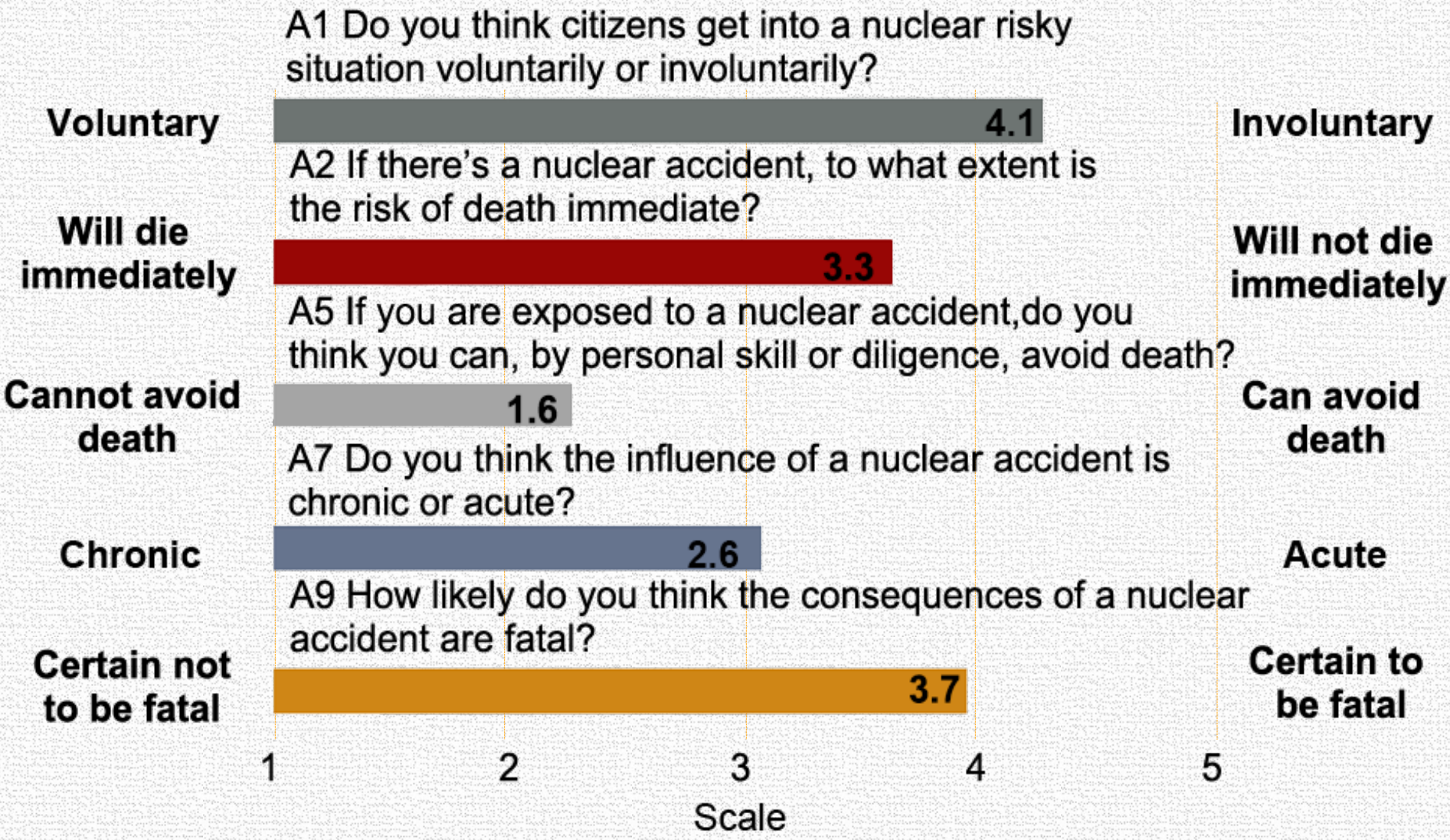
Part A: Perception on Risks of a Nuclear Accident

Nuclear as Energy Fuel Mix

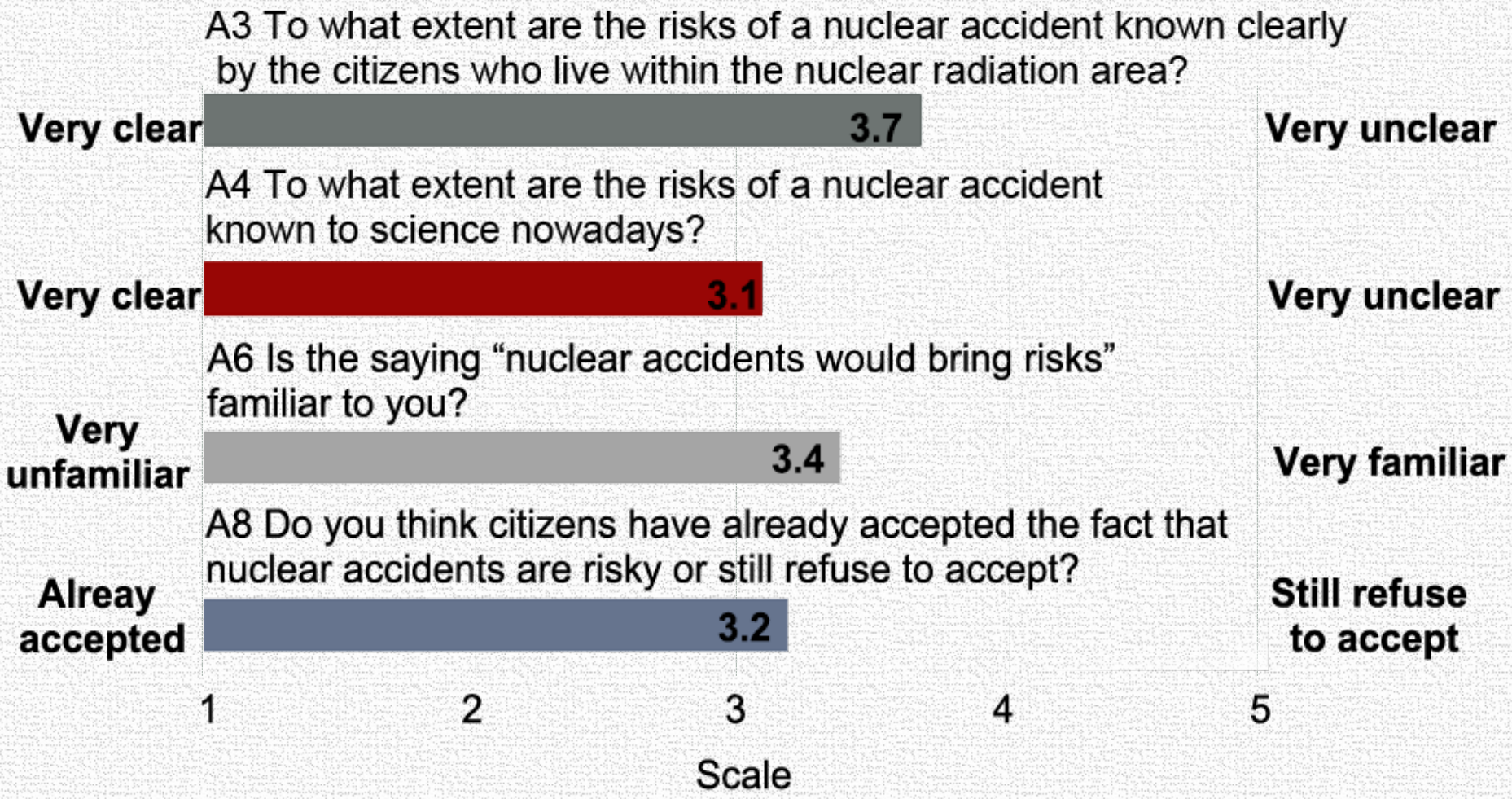
There's a view that Hong Kong needs nuclear power as a mix of energy sources to ensure the reliable supply of electricity. Do you agree with this statement? (A0)



Psychometric Tests Results (1)

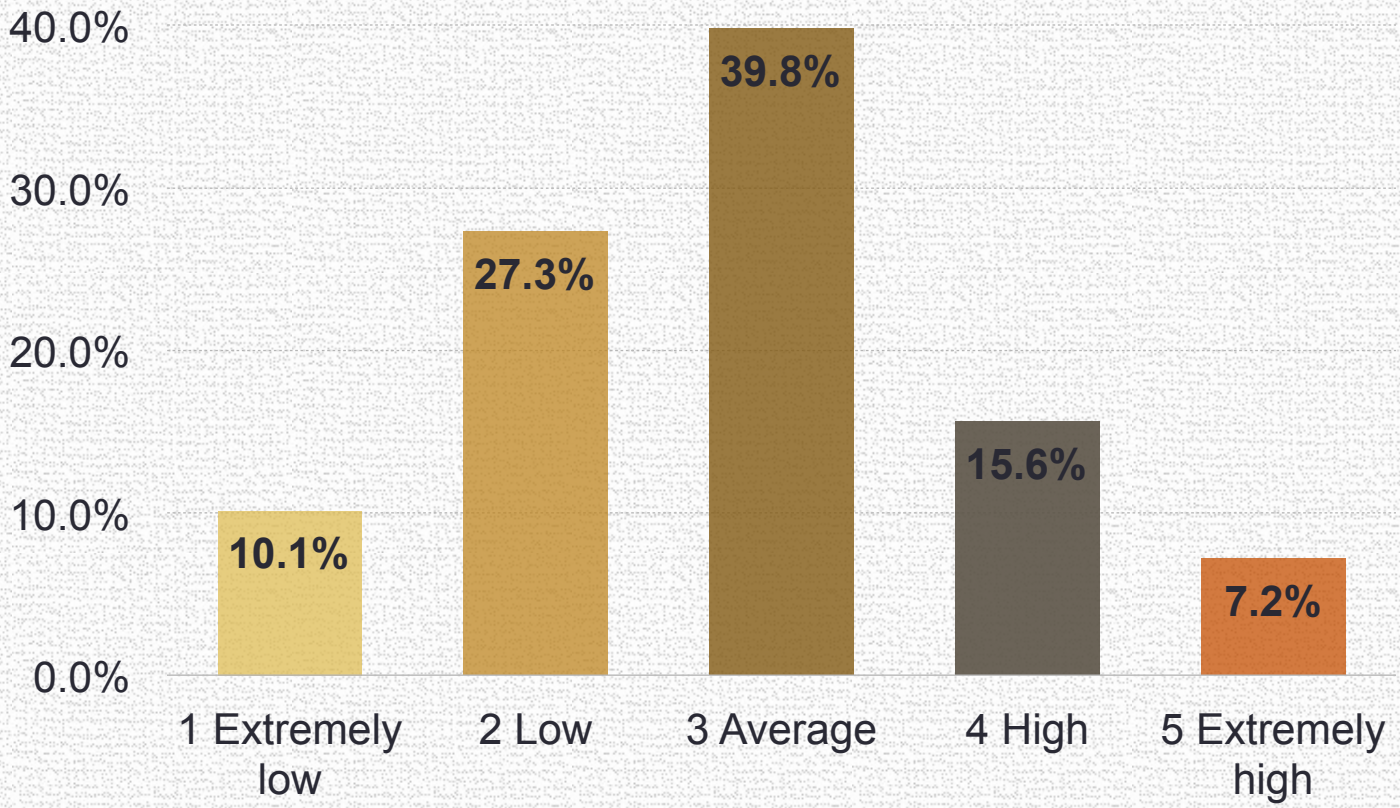


Psychometric Test Results (2)



Overall Risk Perception

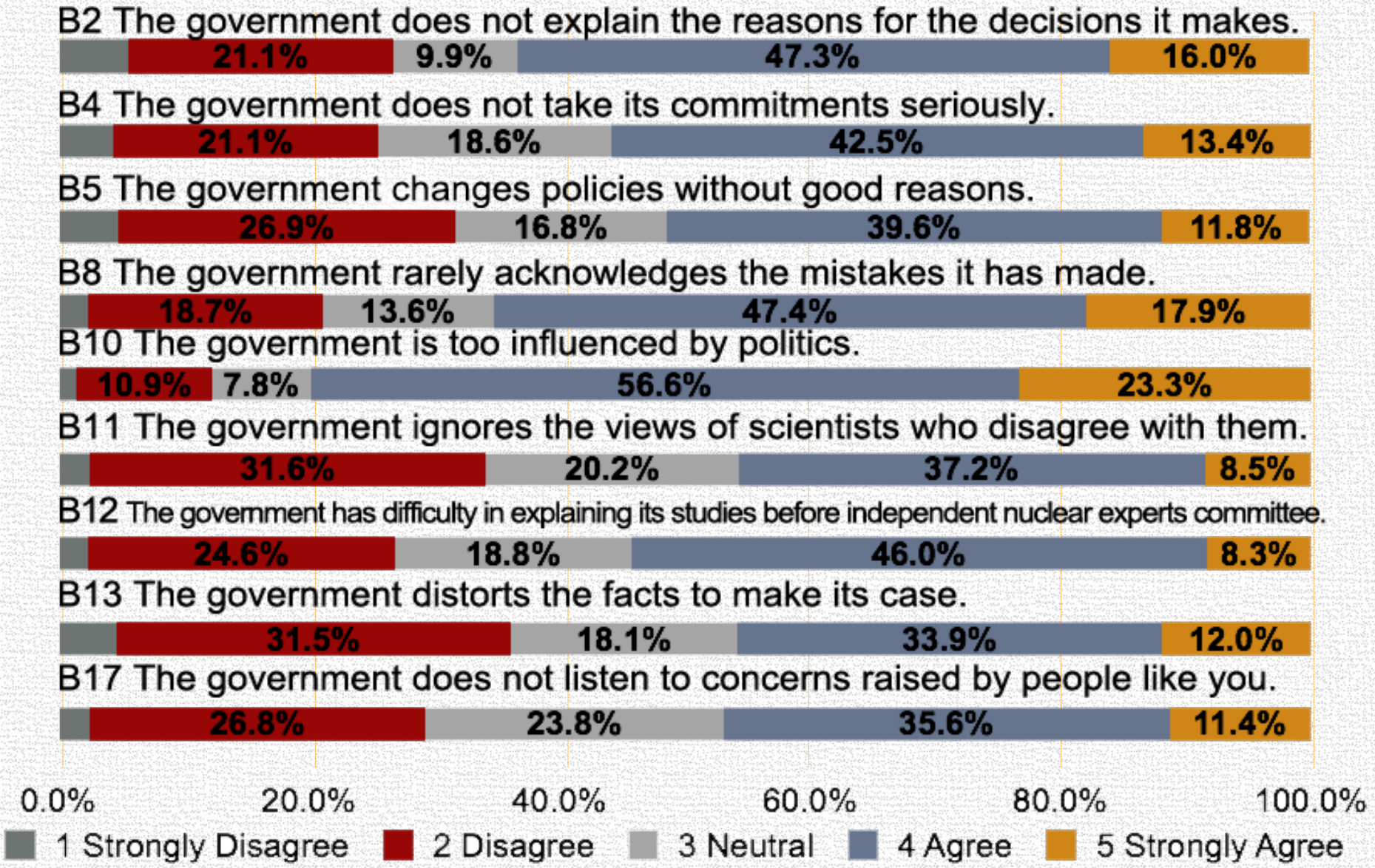
What is Your Perceived Level of a Nuclear Accident in Hong Kong? (A10)



Part B: Perception on Government's Trustworthiness in Nuclear Safety Governance

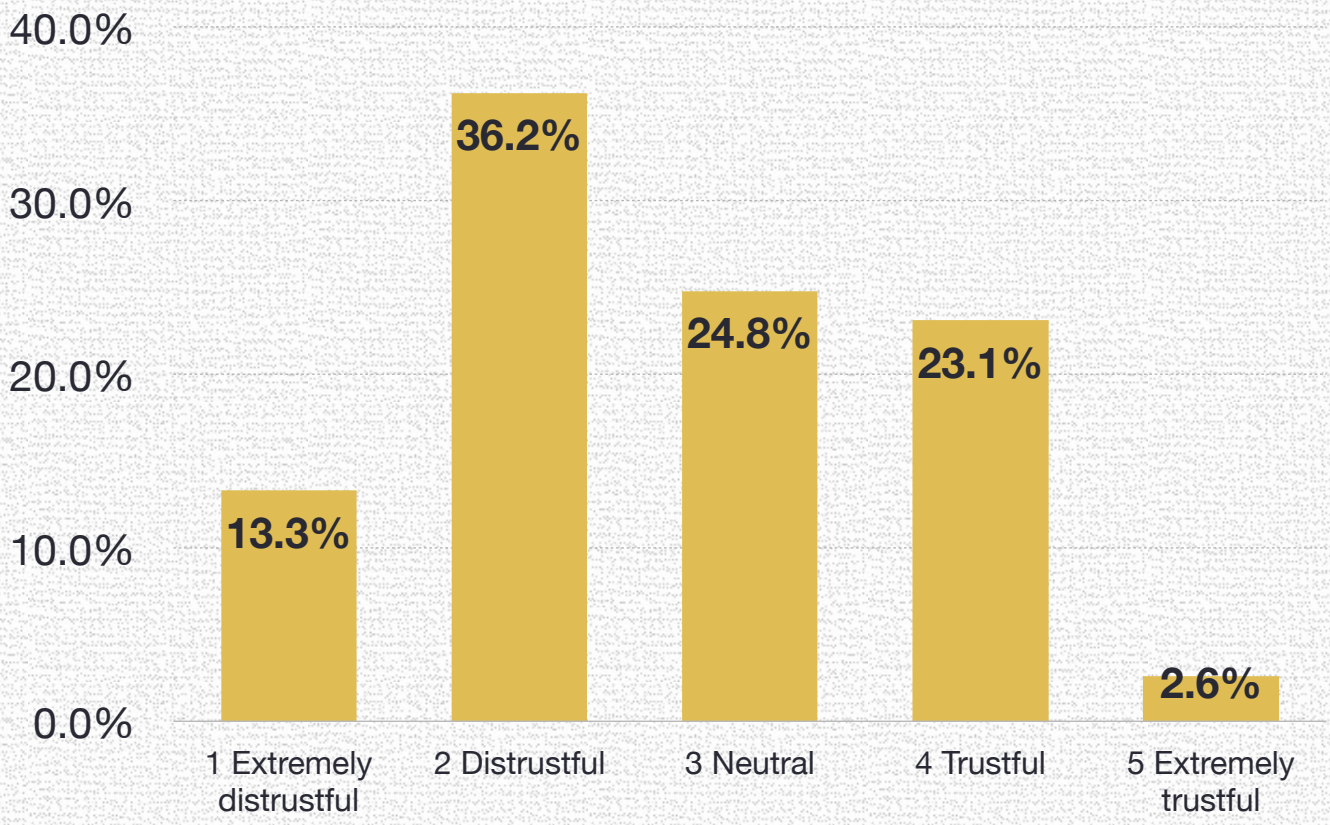
Trust Worthiness (%)

Trust Worthiness (%)



Overall Trust Perception

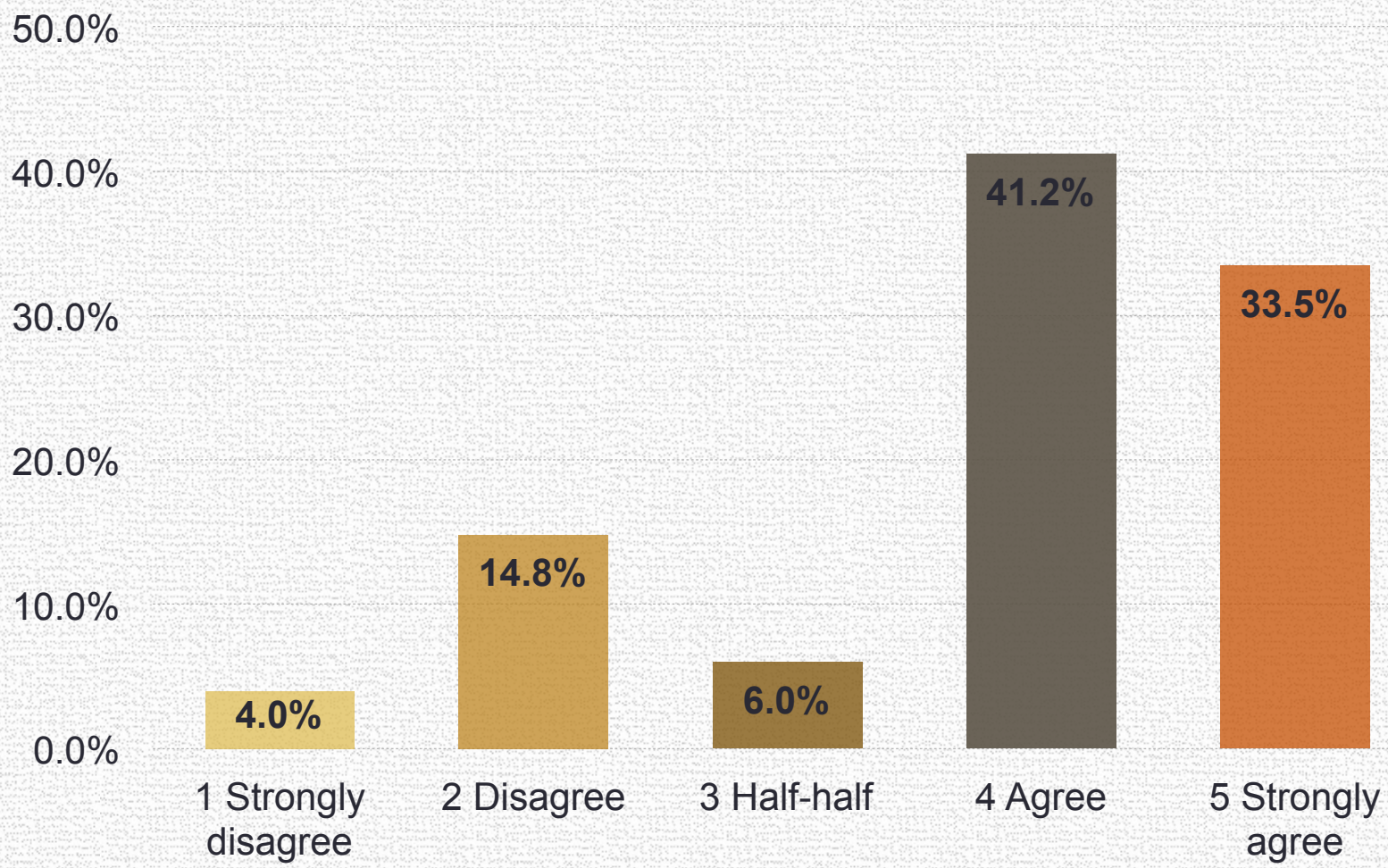
Do You Trust HK Government in its Nuclear Safety Governance? (B20)



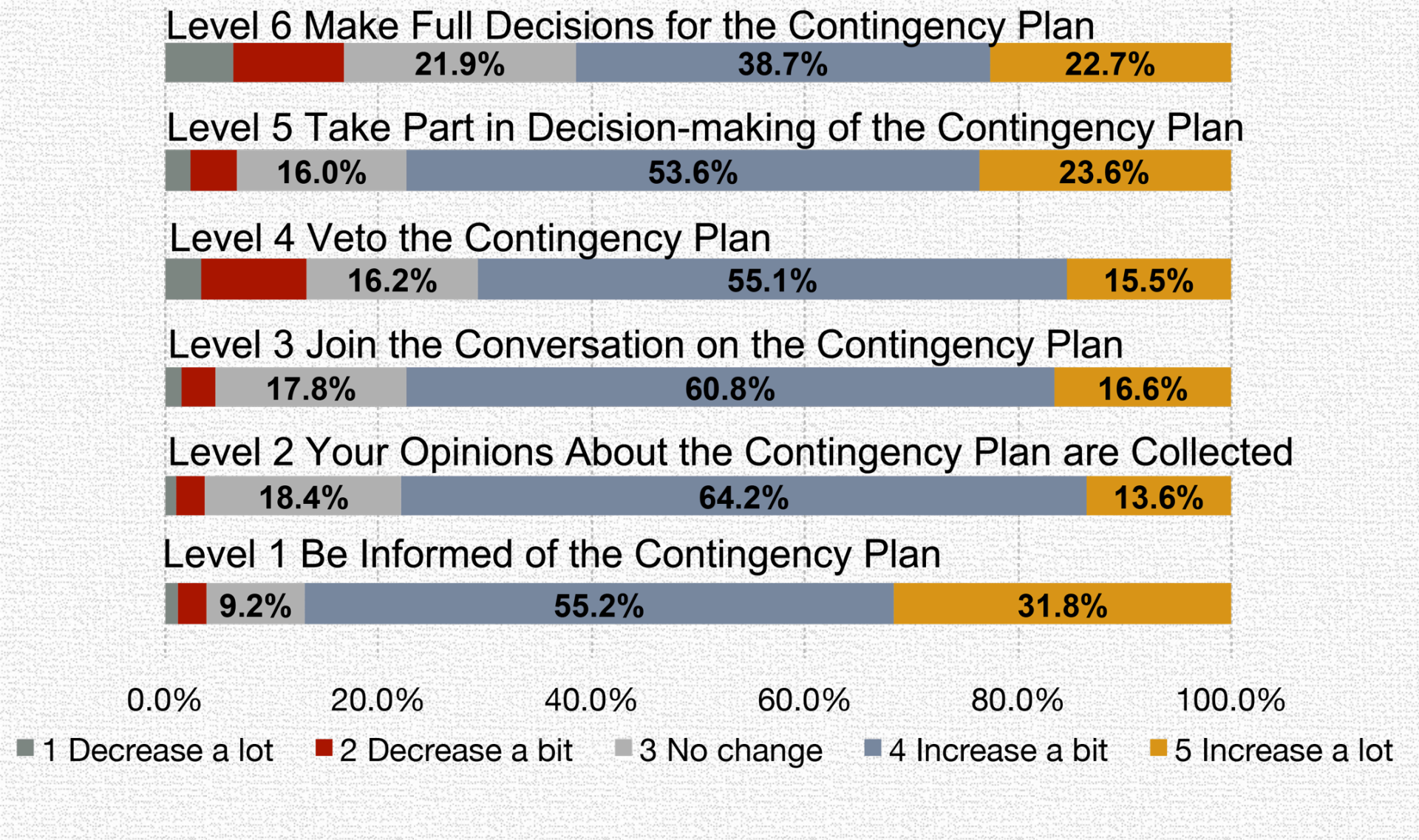
Part D: Stakeholder Engagement

How would the level of engagement affect your trust on the nuclear safety governance?

Do You Think HK Citizens Should Get Involved in Nuclear Safety Emergency Planning?



Engagement Level & Trust in the Contingency Plan (%)



5. Results Summary and Policy Implications

Results Summary (1)

1. Perceived risk on nuclear accidents can be predicted by both Dreaded Risk and Unknown Risk, but dreaded risk has a stronger influence than unknown risk.
2. Trust worthiness can be grouped into three categories, including (a) Fairness and Competence (b) Credibility and Reliability and (c) Transparency
3. Overall perceived trust in nuclear safety governance can be predicted by (a), (b) and (c), with Fairness and Competence having the strongest influence on perceived trust.

Results Summary (2)

4. Overall Perceived Risk of a nuclear accident is negatively correlated with Overall Perceived Trust in nuclear safety governance. But the correlation is weak.
5. The group mean difference between engagement levels is statistically significant. The greatest mean difference occurs between Highest Level of Engagement (citizens can make full decisions of the plan) and Lowest Level of Engagement (citizens are being kept informed of the plan)
6. D5 generates the highest trust while D4 generates the lowest trust.

Policy Implications (1)

1. Concerning public communication/education, more attention should be directed to tackle the fear that citizens have with nuclear accident. The higher the citizen's fear of a nuclear risk, the higher their overall risk perception.
2. Government that demonstrates fairness and competence will receive high public trust in nuclear safety governance.
3. The higher the risk, the lower the trust, and vice versa.
4. HK citizens prefer to be passively informed by the nuclear safety plan than taking full control for the plan. Providing more information to the citizens may gain a higher citizen trust than letting them getting more control of the plan.

Acknowledgments

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THANK YOU!
Please send your comments to:

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