

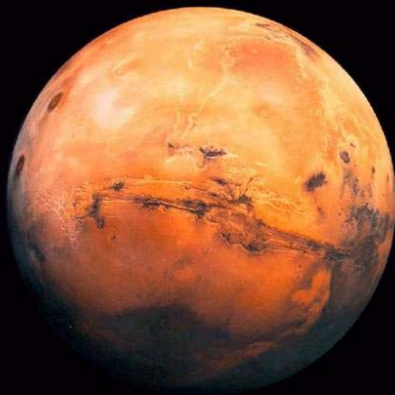
Risk Perception and Health

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Outline

- Risk Perception and Health
- How do people perceive the risks associated with bringing samples from Mars to earth?





Risk Perception and Health

Risk perception:

- examines the judgements people make when they are asked to characterise and evaluate hazards;
- is influenced by social, economic and cultural factors;
- has implications for environmental hazard management.

Understanding perception of risk within a group may help to improve the production and implementation of risk management strategies.

Background

Explore patterns of risk perception among the scientific community in Australia

Mars sample return (MSR)



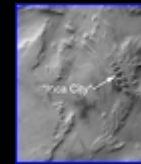
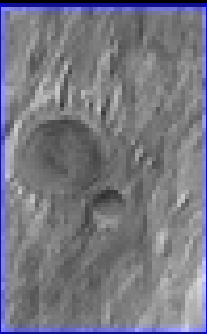
Potential Health Outcomes

Exposure

Potential Outcomes

Microbes

Contamination of earth or Mars and harmful to human health



Radiation

Exposure to humans of plutonium radiation

Ecosystem disruption

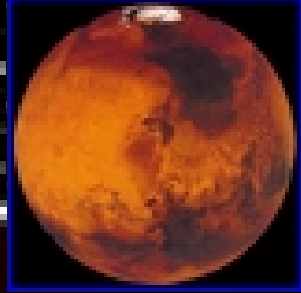
Destruction of the ecosystem on earth or Mars

From invading organisms or ecosystem disruption

Human Health



Literature review -MSR



USA

– 1994 Scientists

- Uncertainty relating to the survival and adaptability of life from Mars on Earth and vice versa

MARS ATTACKS!



– 1998 Microbiologists

- Cautious and uncertain attitude



Methods

Cross-sectional study

To determine the levels of risk perception among
Australians with some background scientific knowledge

Source population

Members of scientific societies in Australia.

Online questionnaire survey





Internet survey

- Risk perception of MSR and places this in context with other risks.
- Issues covered included, does MSR pose a threat from:
 - Microbes
 - Radiation
 - Ecological disruption
 - Human disease



Results

- 74 participants
- 70.2% male, 29.8% female
- Over one third aged 31-45 years old
- 45.9% postgraduate education – 91.2% science
- Does life exist on Mars?

Results

- Life on Mars
- Past (58.1%) or present (31.1%)

Risk Perception towards MSR

- Concerns regarding Mars Sample Return
- The greatest threat: ecological effects due to contamination of earth. *Figure 1.*

Figure 1. Concerns regarding Mars Sample Return

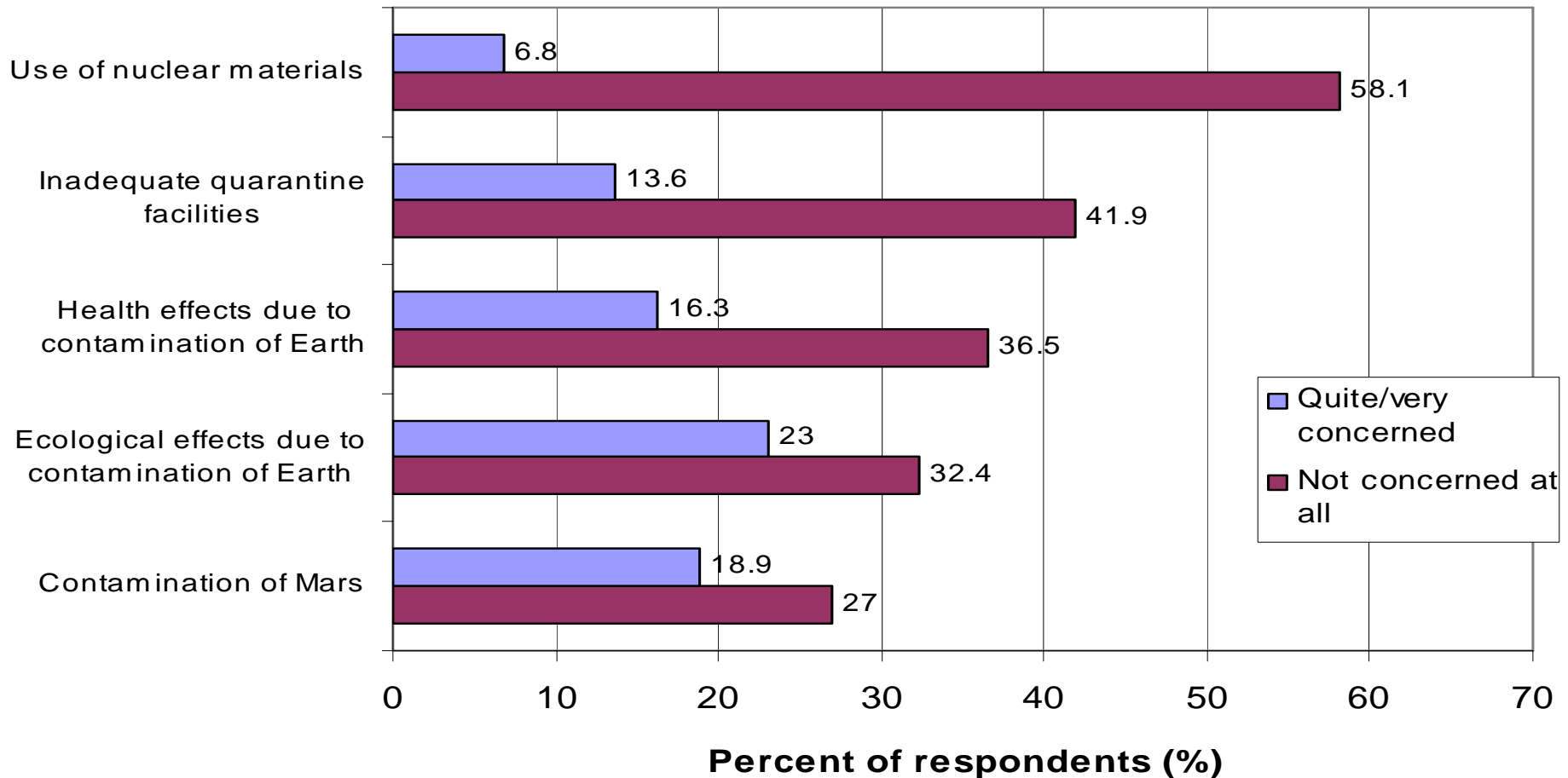


Figure 2. Differences in perception of MSR risks by gender

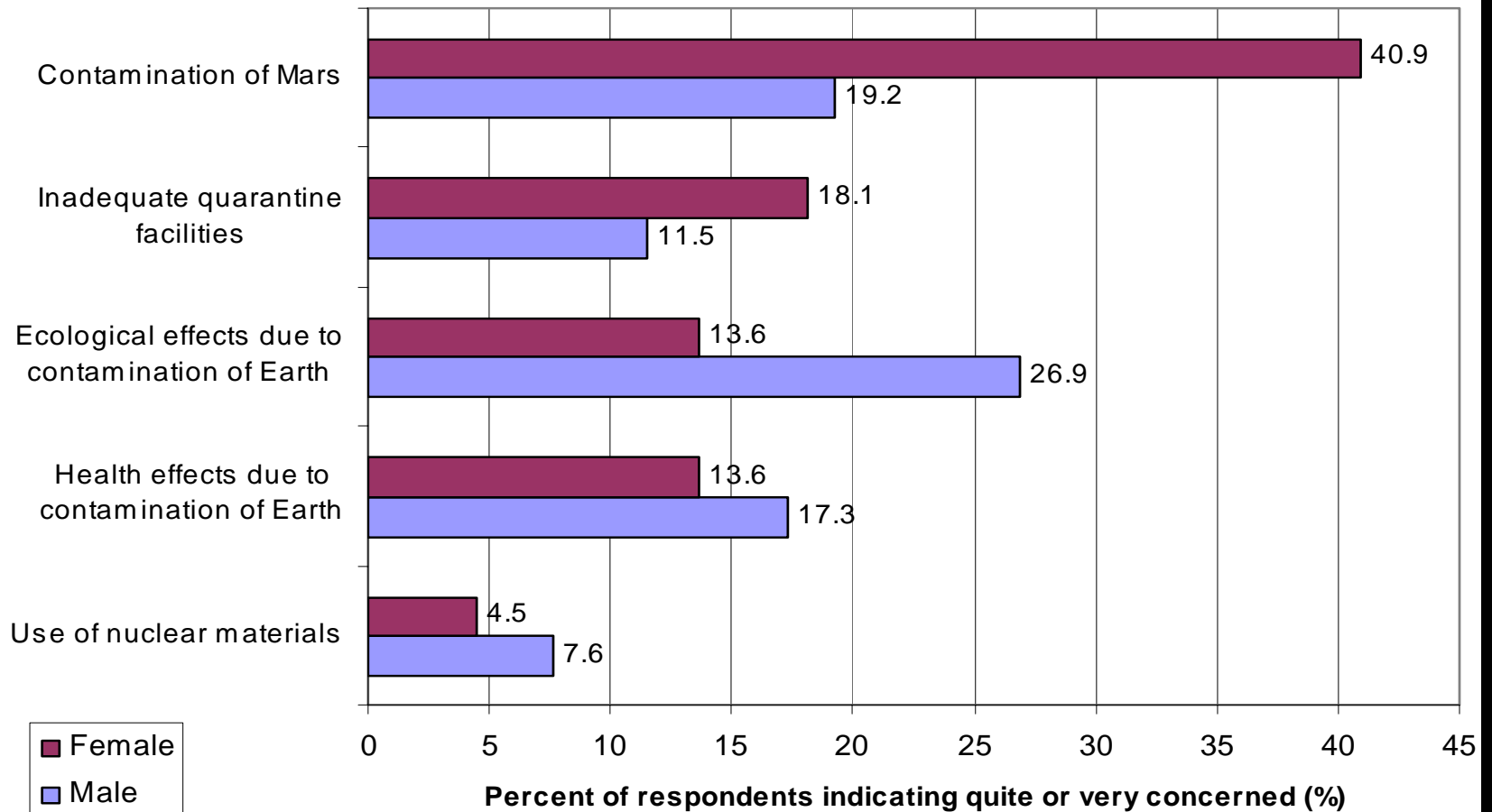


Figure 3. Differences in perception of MSR risks by education

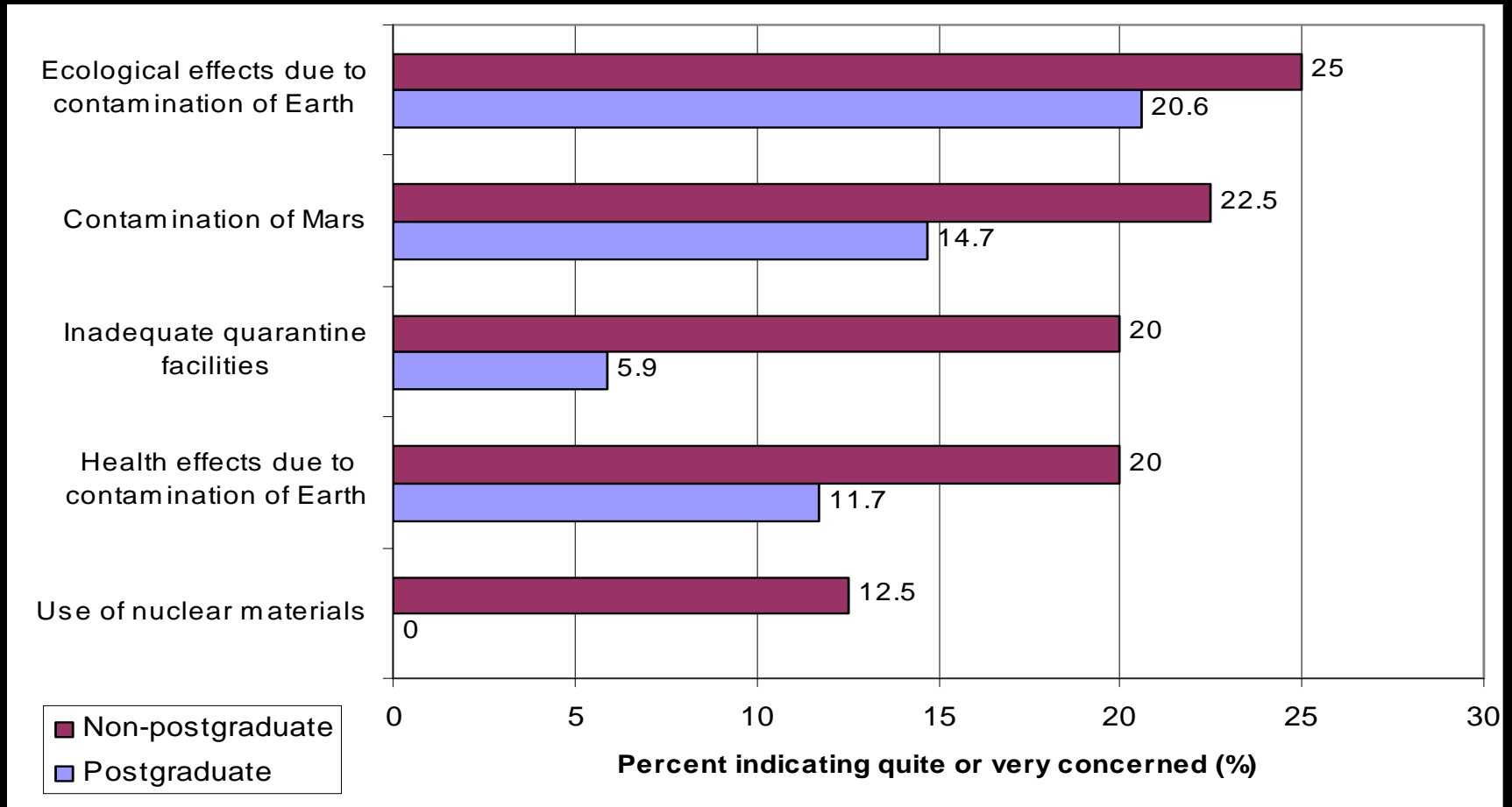
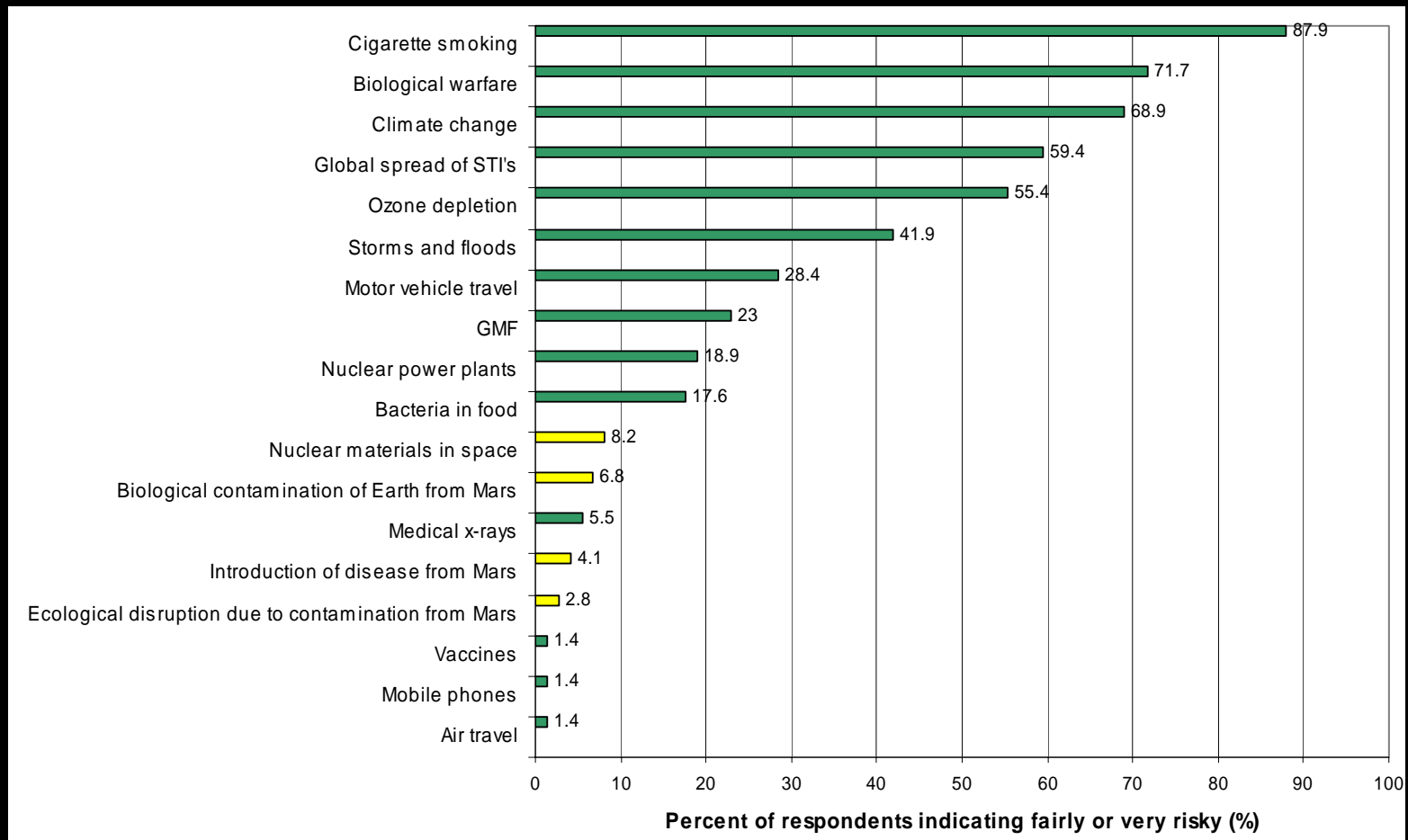


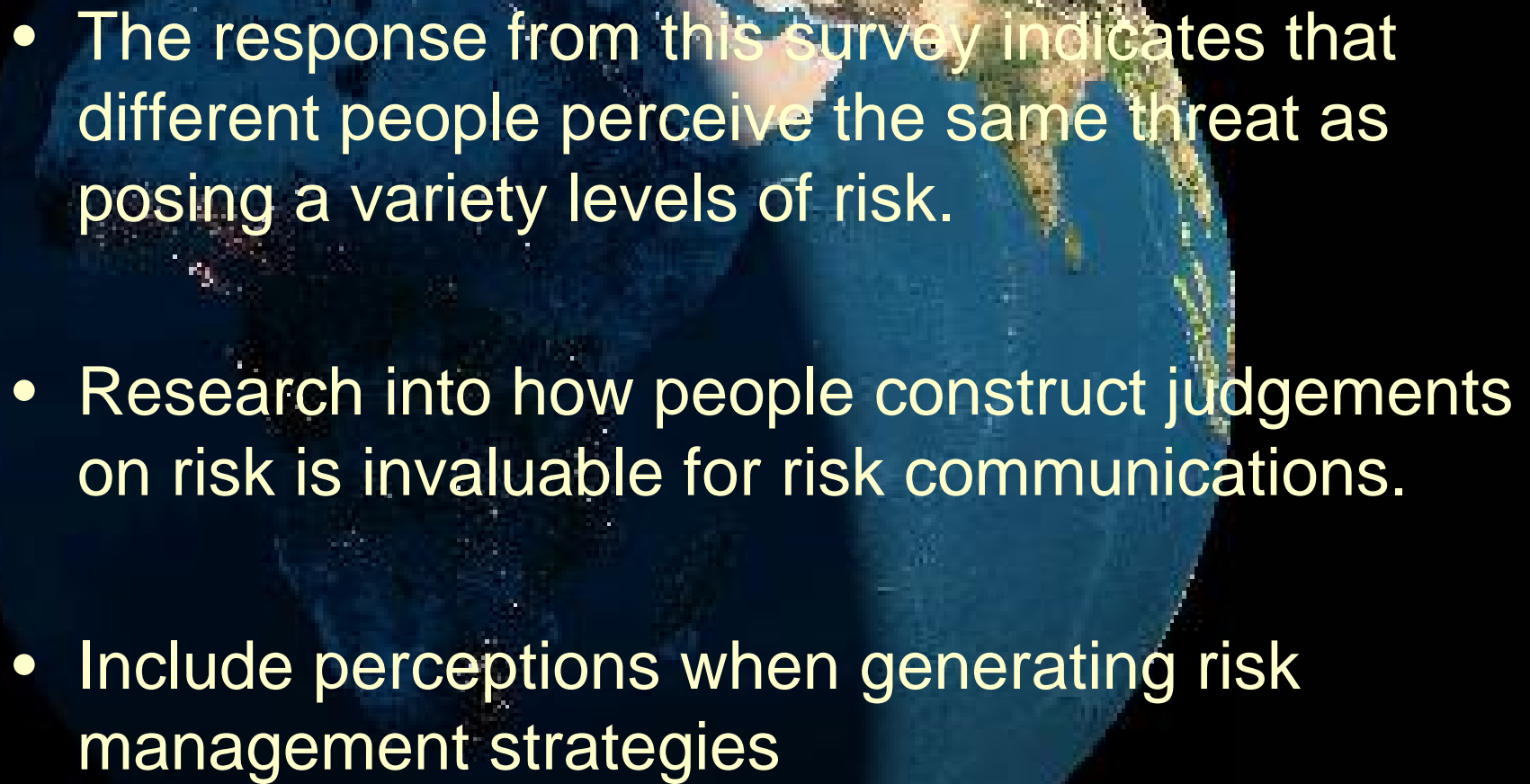
Figure 5. Concerns regarding Mars Sample Return compared to other societal risks



Discussion

The most significant finding of this study was that demographic variables influence individuals risk perceptions.

Males and people with a postgraduate education had the lowest perception of risk from Mars Sample Return.

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- The response from this survey indicates that different people perceive the same threat as posing a variety levels of risk.
 - Research into how people construct judgements on risk is invaluable for risk communications.
 - Include perceptions when generating risk management strategies

Thank You!

Ms Sarah Joyce

Dr Angus Cook



THE UNIVERSITY OF
WESTERN AUSTRALIA

Professor Philip Weinstein

The Mars Society Australia

Astronomical Society of Western Australia

Astronomical Group of Western Australia

Canberra Astronomical Society



Questions?

