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Food Sustainability: Developing a Tool to Measure Resistance to Sustainable Food Choices

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Introduction

Livestock sector accounts for 14.5% of global GHG emissions - beef and dairy production being the largest contributors[(1),(2).]

Reducing consumption of animal products and shifting towards a plant-based diet can significantly reduce GHG emissions.

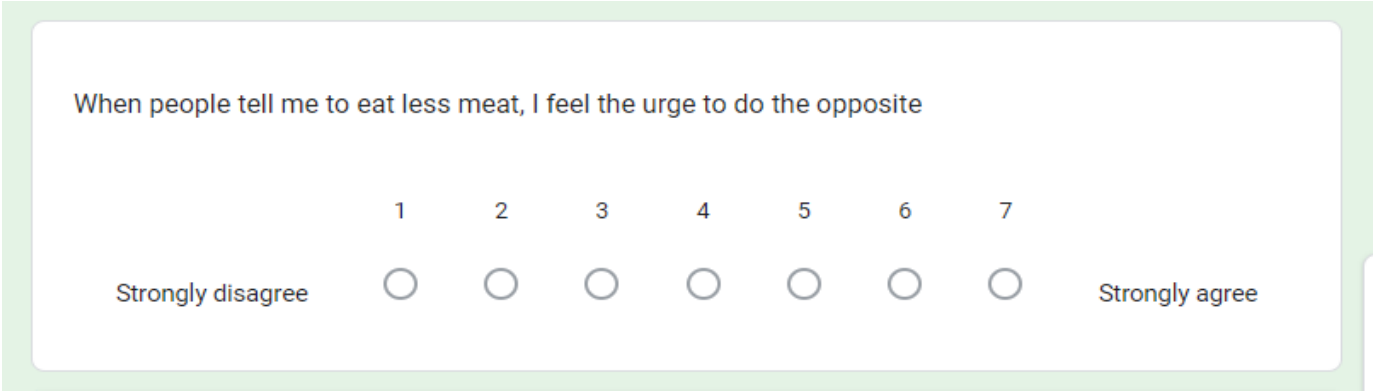
Many people resist change and continue to consume diets that are not environmentally sustainable.

To understand the direction of resistance, we need to measure the different types of resistance.

Methodology

The Sustainable Dietary Resistance Scale (SDRS) was developed with the aim of checking if individuals demonstrate a high level of general resistance or score very high on a specific variant so that the perfect intervention can be created.

Theories	Statements
Reactance	I don't believe one person can make any difference on climate change by changing their meat intake
Avoidance Strategy	I deliberately avoid information about the effects of meat consumption on the environment
Scepsis	Global warming is a natural phenomenon
Cognitive Dissonance	I doubt that eating meat is really that bad for the environment
Inertia	Meat has always been part of our diet
Social Validation	I am afraid that I will be seen as different by friends and family if I eat plant-based
Construal Level Theory	Climate change is not an immediate threat

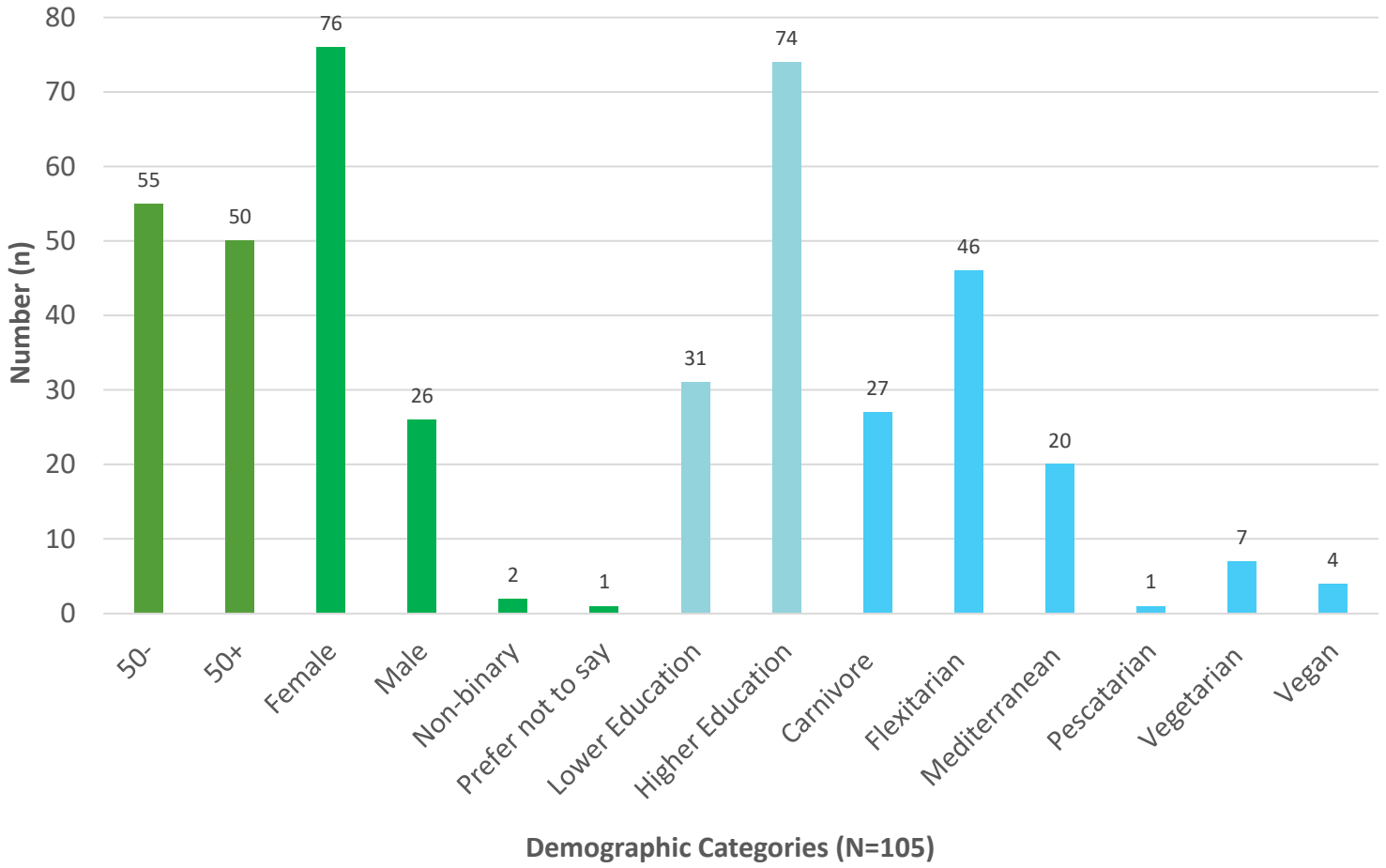


Demographic Characteristics

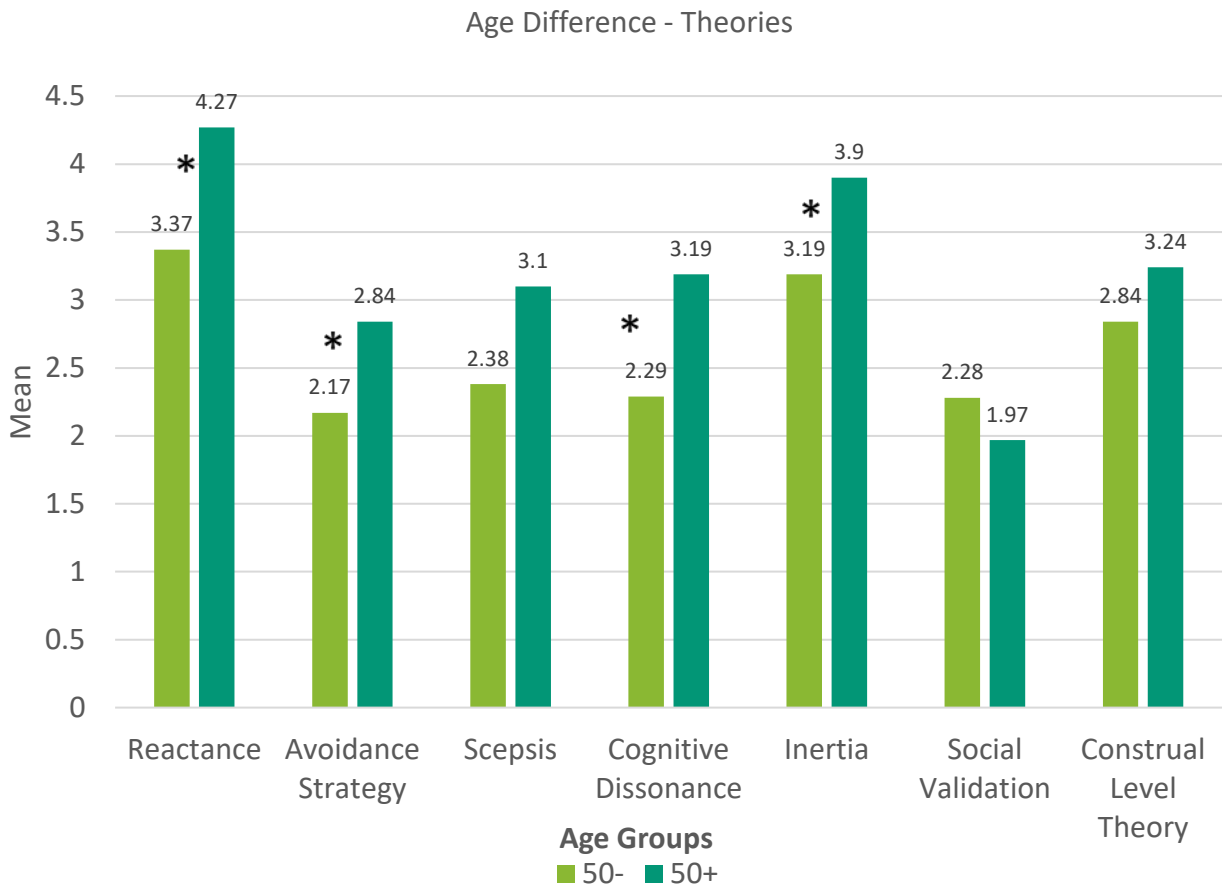
- Participants were recruited based on age. Gender and education were also analyzed.

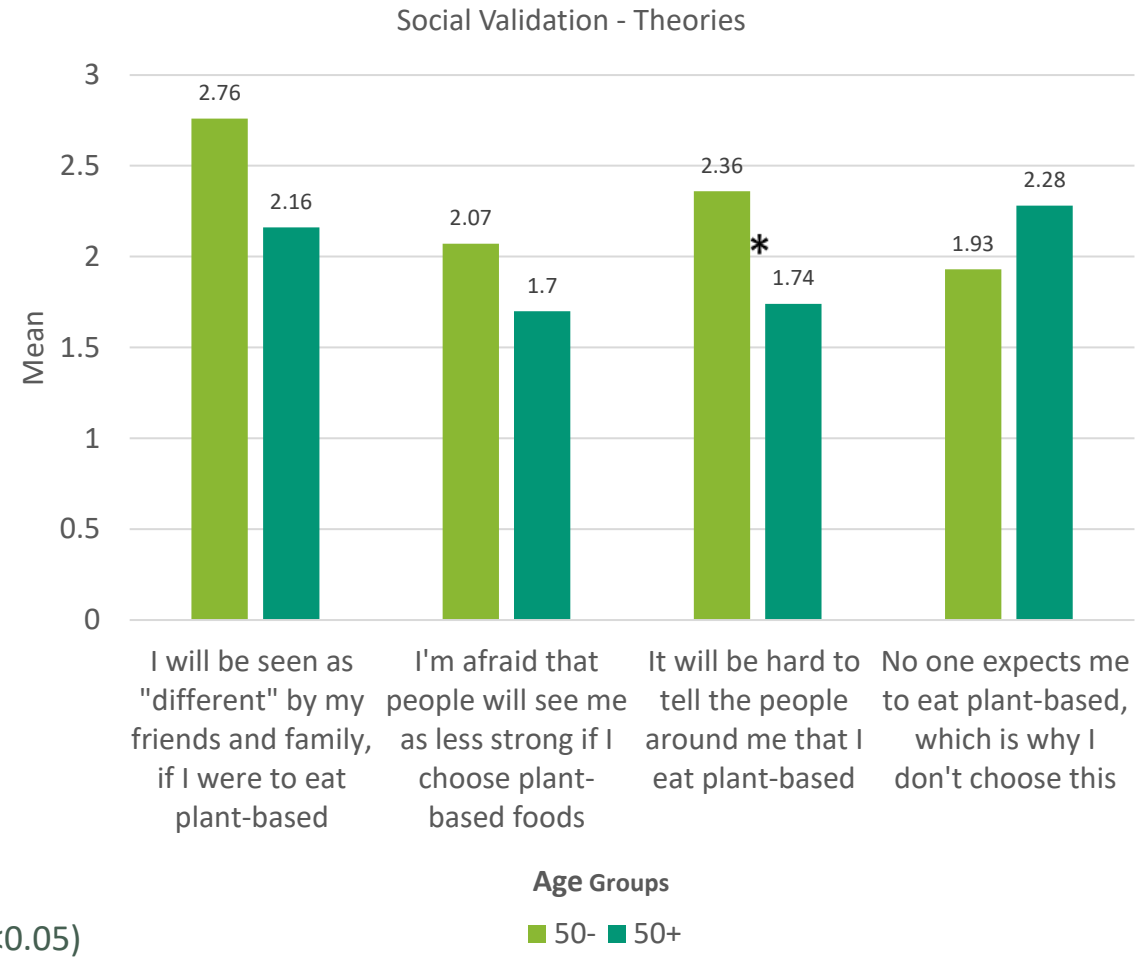
- SDRS was developed using Google Forms.
- Piloted on five respondents.
- The link went live for 7 days.

- 105 valid responses were collected, coded, and imported to SPSS.
- Descriptive statistics and independent t-tests were used.



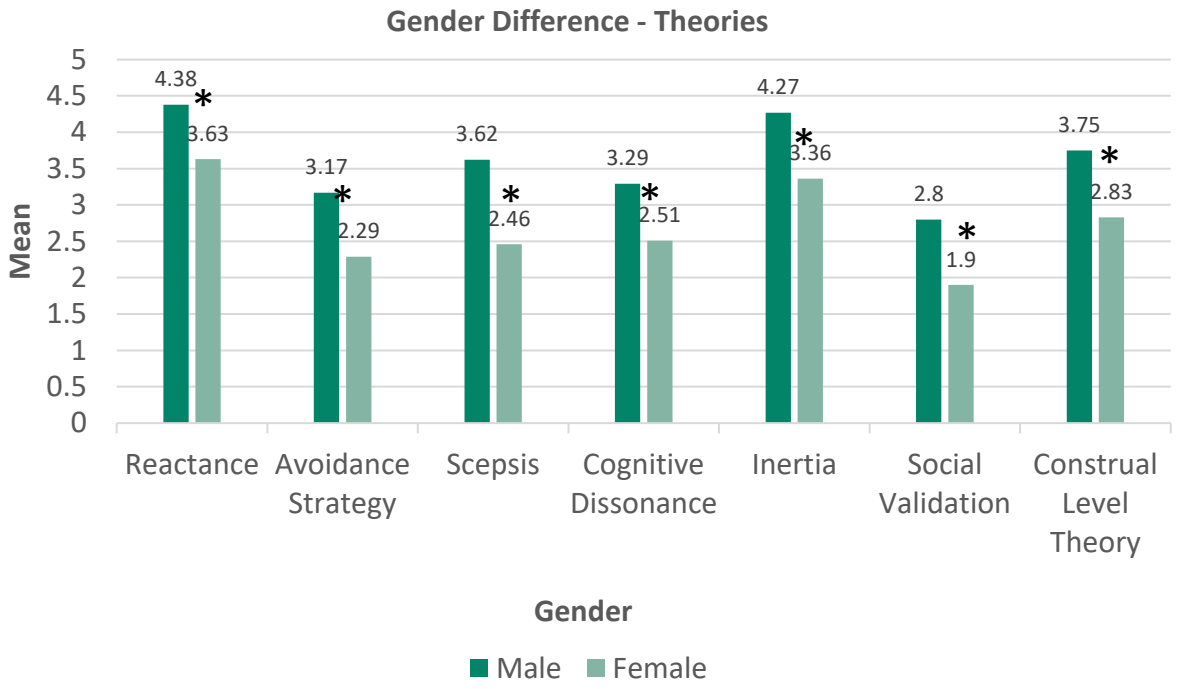
Results – Age

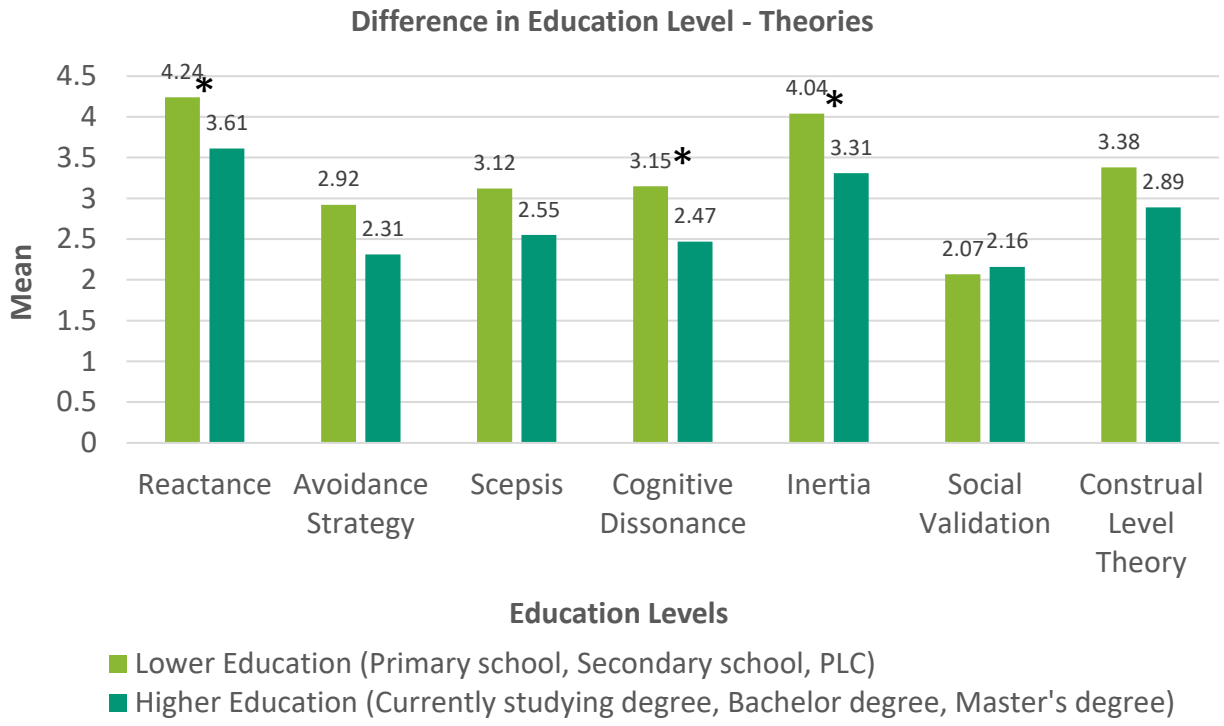




(*P*-value = <0.05)

Results - Gender | Education





(*P*-value = <0.05)

Resistance experienced among the three groups

Gender (male/female)	Age Group (Years 50-/50+)	Education level (lower/higher)

Statements	Significant Resistance
The taste of meat is irreplaceable.	Male, 50+, lower
I don't believe one person can make any difference in climate change by changing their meat intake.	Male, 50+, lower
When someone tells me to change my diet because of climate change, it makes me do the opposite.	Male, 50+, lower
I am not willing to try meat substitutes that have been advised by companies or institutions.	Male, 50+, lower
I don't see a reason to change my diet.	Male, lower
Eating plant-based will never bring me the same enjoyment as eating meat.	Male, 50+
It would be difficult to tell the people around me that I choose to eat plant-based.	50-
I don't think climate change is an immediate threat.	Male, lower
The world faces bigger issues at the moment than climate change.	Male, 50+, lower

Discussion

Representation across age and education levels: more females = unbalanced data.

55% of the participants followed a flexitarian/vegetarian/vegan diet.

Desire by the participants to take-part in the survey. Potential for self-selection bias - not representative of the broader population.

Recommendations for the future

The SDRS revealed the expected differences within the groups (age, gender, and education level).

The scale partly showed significance in education levels – is it sensitive enough to pick up smaller differences.

Improvements: clearer questioning with no double-ended statements, and accurate demographic characteristics.

Larger sample size that is better divided between genders so that it can be representative of a larger population.

SDRS is useful in product development. It can aid sustainability interventions. It enables monitoring trends over extended periods or in specific groups. Can be used for pre and post-measurements after campaigns or interventions.

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Staying curious and being proactive in your approach.

Being courageous in collaborating.

Harnessing a multi-disciplinary approach expands our understanding – and is required to address the complex environmental problems of our time.

References

1. Tseten T, Sanjorjo RA, Kwon M, Kim SW. Strategies to Mitigate Enteric Methane Emissions from Ruminant Animals. J Microbiol Biotechnol [Internet]. 2022 Mar 28 [cited 2023 May 11];32(3):269–77. Available from: https://www.jmb.or.kr/journal/view.html?doi=10.4014/jmb.2202.02019

2. FAO - News Article: Key facts and findings - GHG emissions by livestock [Internet]. 2022 [cited 2023 Mar 10]. Available from: https://www.fao.org/news/story/en/item/197623/icode/