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- Addressing the Challenges of Climate Change for Risk Management -

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Emerging food technologies as sustainable solutions for unsustainable practices? Predicting consumer acceptance of cultured meat

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✓ Food systems are partly responsible for greenhouse gas emissions.
✓ Technological initiatives to increase sustainability in food production & consumption, rose in recent years and may soon enter the market.


https://www.mdpi.com/1422-0067/22/14/7513/htm
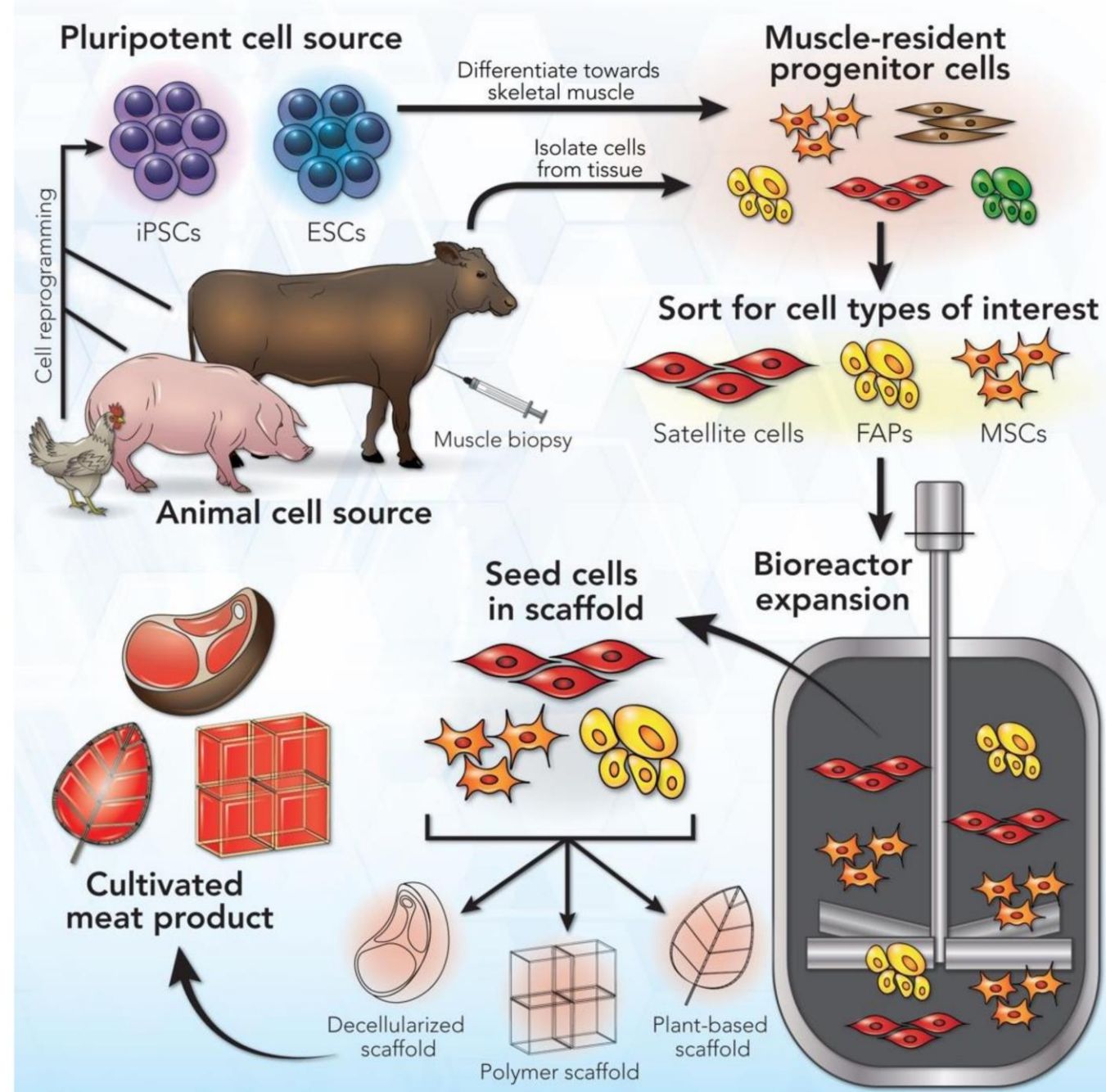
(Reiss, Robertson, & Suzuki, 2021)

Why study consumer acceptance of cultured meat?

- 50% of biomass produced to feed animals
- 9-17% of GHG emissions due to livestock production
- Increase in demand for meat of 73% by 2050

- Meat alternatives like cultured meat are needed

Major challenges
- Technology
- Regulatory issues
- Consumer acceptance
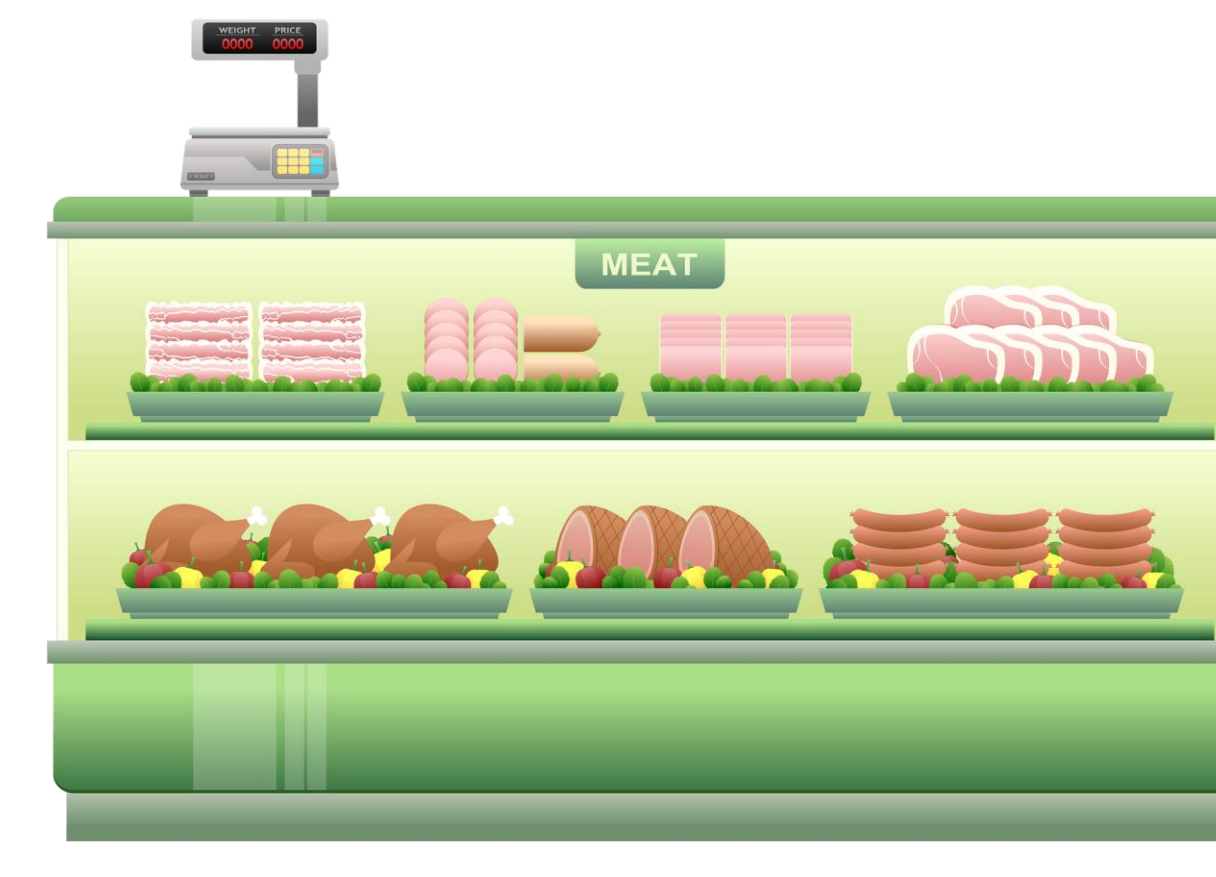
✓ By assessing consumers acceptability of new foods produced with new technologies, we can predict future consumption trends.

Theoretical framework and research goals

	Product-related factors	Psychological factors	External factors
Siegrist (2008)			
Siegrist & Hartmann (2020)	• Perceived naturalness	• Food neophobia • Disgust evoked by CM • Disgust sensitivity	• Trust
Extension	• Perceived benefits of CM Familiarity with CM	• Attitude towards the environment	• Subjective norm
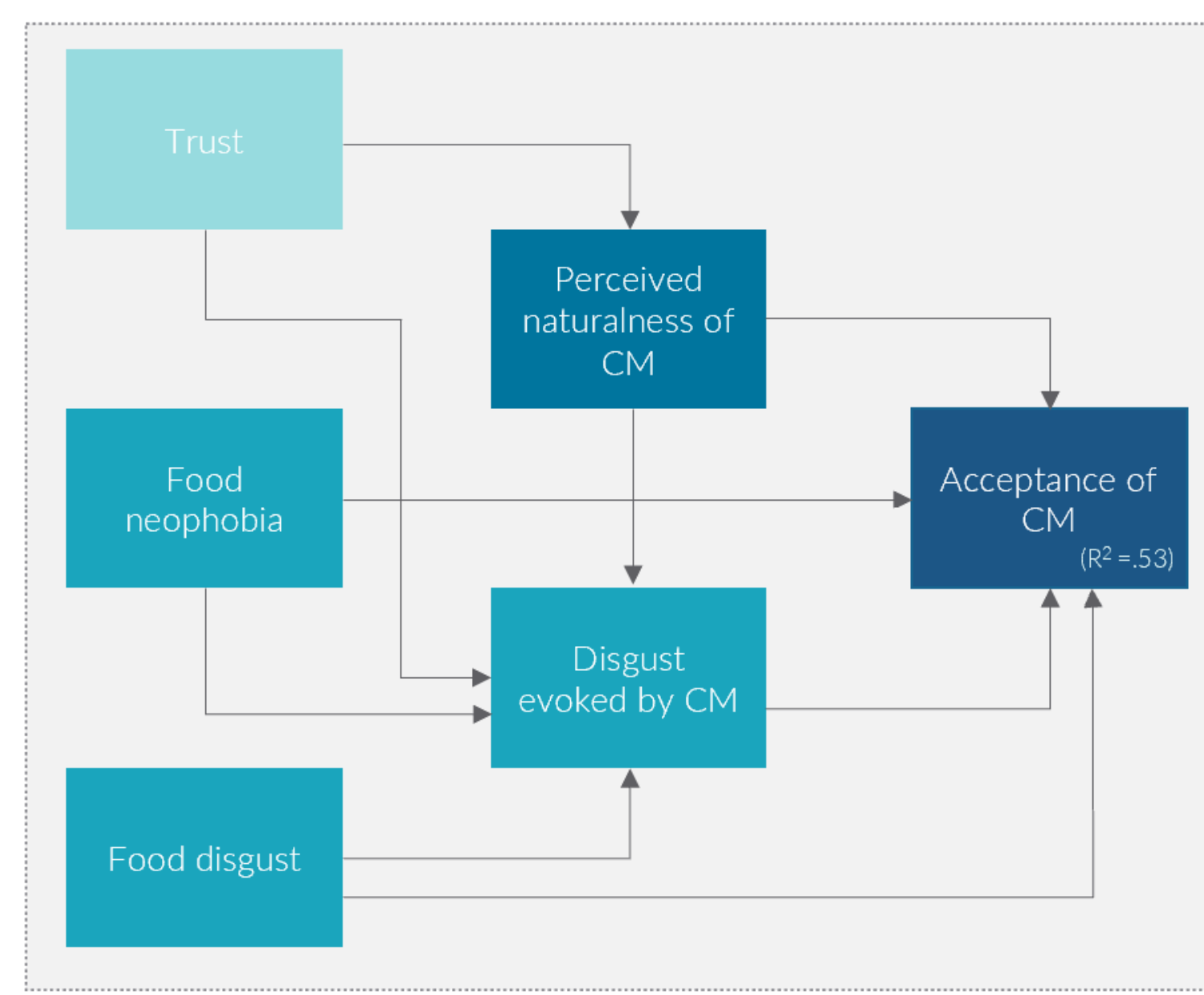
- Replication
- Extension
- Model comparison

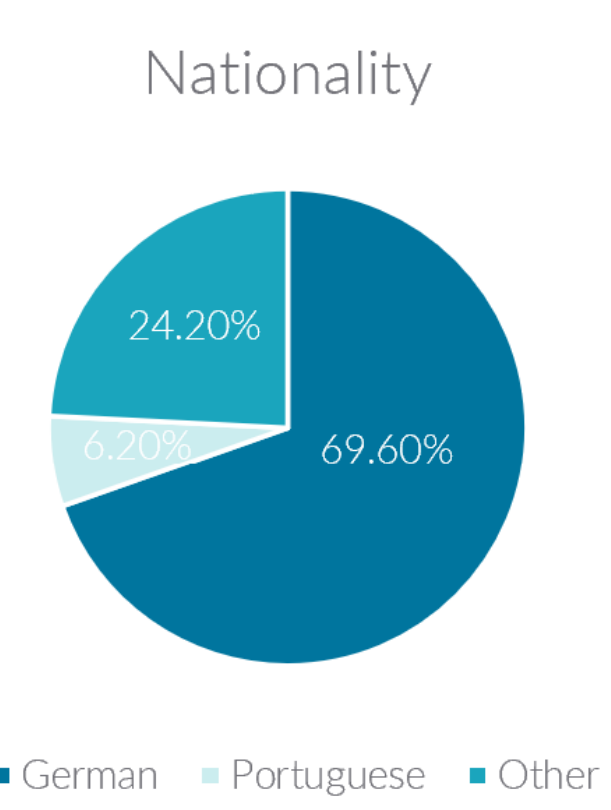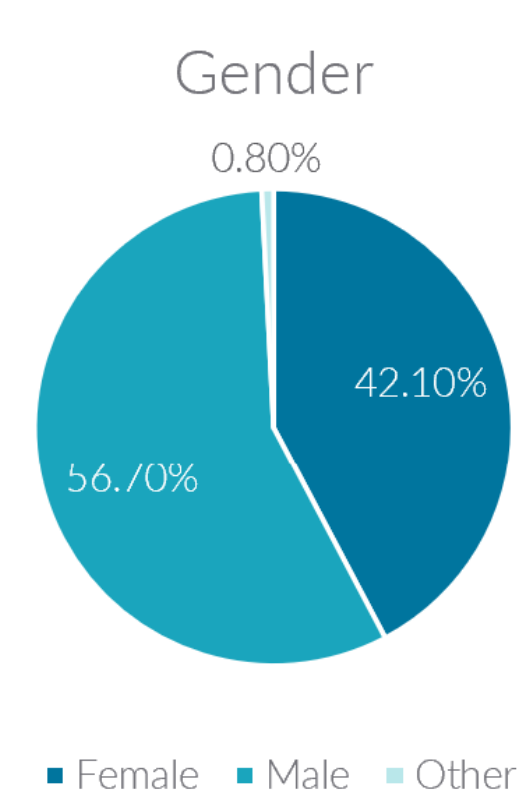## Method & Results

Instrument
- Online questionnaire with psychometrically validated scales in English

Data analysis
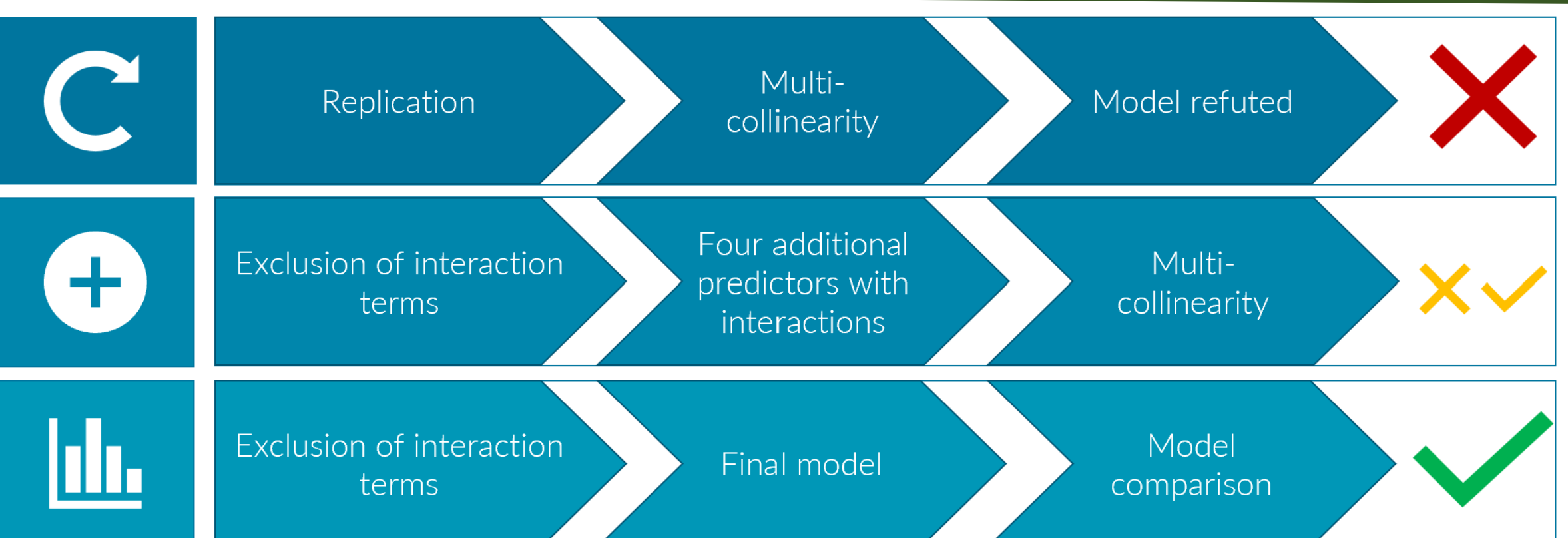- Stepwise linear regression with interaction effects in SPSS

Sample characterization
- N =260
- Age: M = 29.6 years (SD = 11.4)
- Conumer accceptance of CM: M = 3.46 (SD = 1.12)

Gender
- Female 56.70%
- Male 42.10%
- Other 0.80%

Nationality
- German 69.60%
- Portuguese 6.20%
- Other 24.20%

Step and Predictor Variable	β	R² Adj
Step 1		.495***
Trust	.151**	
Neophobia	-.186***	
Disgust sensitivity	.081	
Naturalness	.128**	
Disgust evoked by CM	-.579***	
Step 2		.538***
Trust	.175***	
Neophobia	-.161**	
Disgust sensitivity	.072	
Naturalness	.081	
Disgust evoked by CM	-.418***	
Perceived benefits	.078	
Familiarity	.110*	
Attitude towards the environment	.068	
Subjective norm	.161**	

*p<.05, **p<.01, ***p<.001

Implications and future research

- Replication → Multi-collinearity → Model refuted ✗
- Exclusion of interaction terms → Four additional predictors with interactions → Multi-collinearity ✗✓
- Exclusion of interaction terms → Final model → Model comparison ✓

Holistic marketing: target product-related, psychological and external factors

Limitations
- Sample not representative
- Only intentions, no actual behaviour

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- Siegrist, M., & Hartmann, C. (2020a). Consumer acceptance of novel food technologies. Nature Food, 1(6), 343–350. https://doi.org/10.1038/s43016-020-0094-x
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