

Does Gender Matter?

Emotional and Cognitive Attitudes Toward Entomophagy

Agnieszka Orkusz^{1*} Katarzyna Ostasiewicz² Maria Yotova³

¹ Department of Biotechnology and Food Analysis, Wrocław University of Economics and Business, Wrocław, 53-345, Poland

² Department of Statistics, Wrocław University of Economics and Business, Wrocław, 53-345, Poland

³ College of Gastronomy Management, Ritsumeikan University, Shiga 525-8577, Kusatsu, Japan

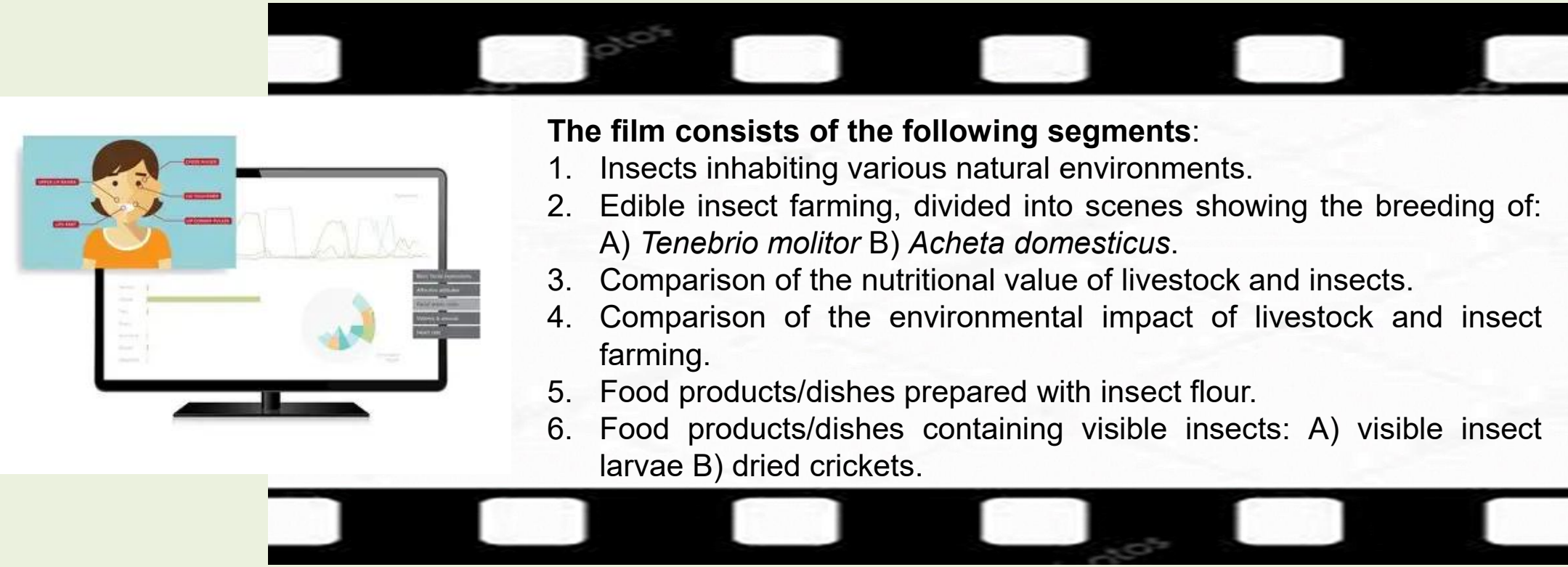
*e-mail: agnieszka.orkusz@ue.wroc.pl

INTRODUCTION & AIM

Entomophagy, or the consumption of insects, is increasingly recognized as a component of sustainable food systems, reducing greenhouse gas emissions, lowering resource use, and improving animal welfare. Nevertheless, it continues to face resistance in Western societies, mainly driven by psychological, cultural, and emotional factors.

This study aimed to explore gender differences in emotional and cognitive attitudes toward edible insects—understood as variations in knowledge, acceptance, and emotional responses to the idea of insect consumption.

FaceReader program from Noldus Company for facial analysis



METHOD

53 % 227 Respondents 47 %

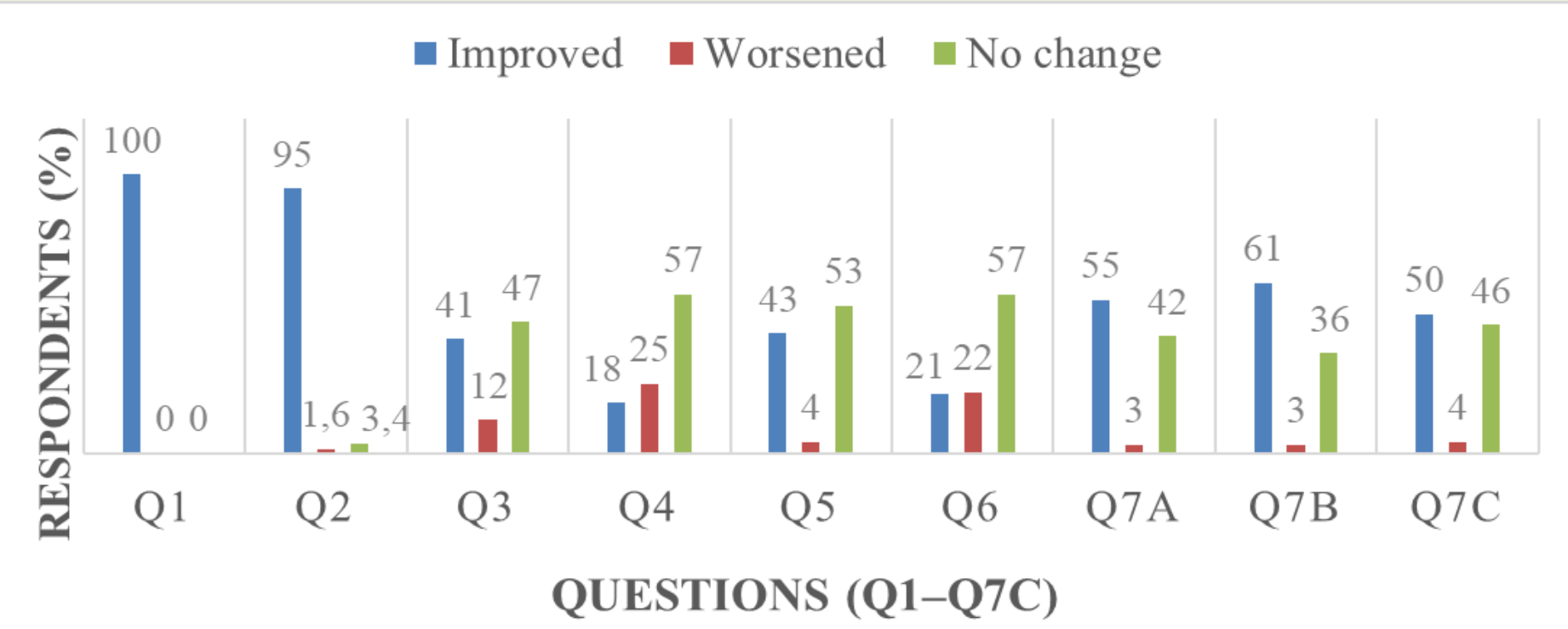
- Survey A***
- Respondents demographics (sex, place of residence, meat consumption).
 - Participants answered (yes/no/not sure) 10 questions about insects.
- Film**
- The film titled "Entomophagy".
- Survey B****
- Respondents answered again 7 of the same 10 questions they answered in part A of the survey.

Survey A* questions: 1. Have you heard about edible insects before? 2. Have you heard about eating insects in other cultures? 3. Have you eaten edible insects? 4. Are you aware that edible insects are a rich source of protein? 5. Are you aware that the production of edible insects has a significantly lower environmental impact compared to livestock production? 6. Would you accept edible insects in your diet? 7. Would you be willing to try whole insects (without additives)? 8. Would you be willing to try insects in an invisible form as insect flour added to the product? 9. Is eating edible insects disgusting to you? 10. Should insects be included in Western diets to address issues related to: a) Animal protein deficiency, b) Environmental protection, c) Animal welfare. **Survey B:** Questions 4-10 from survey A

IBM SPSS, PS IMAGO PRO 10.0

RESULTS & DISCUSSION

Figure 1. Changes in respondents' attitudes after watching the film



Q1. Are you aware that edible insects are a rich source of protein? Q2. Are you aware that the production of edible insects has a significantly lower environmental impact compared to livestock production? Q3. Would you accept edible insects in your diet? Q4. Would you be willing to try whole insects (without additives)? Q5. Would you be willing to try insects in an invisible form as insect flour added to the product? Q6. Is eating edible insects disgusting to you? Q7. Should insects be included in Western diets to address issues related to: A) Animal protein deficiency, B) Environmental protection, C) Animal welfare.

Comparison of respondents' emotions before and during the film

During the film screening, participants experienced significant changes in almost all of the emotions studied compared to the phase before watching the film. In most cases—both among women and men—a **statistically significant decrease** was observed in emotions such as *happy*, *surprised*, and *scared*. This indicates that these emotions were higher levels before the screening than during it. The emotion that increased compared to the pre-film state was *sadness*, which increased significantly only among women ($p = 0.012$). Anger also increased significantly only in this group ($p = 0.017$), while its level slightly decreased among men.

Table 1. Summary of dominant emotions by scene and gender

Scene	Dominant Emotions (Women)	Dominant Emotions (Men)	Notes
1. Insects inhabiting various natural environments	<i>Surprise, Happy</i>	<i>Neutral</i>	Women show greater emotional variability than men
2A. Edible insect farming: <i>Tenebrio molitor</i>	<i>Disgust, Angry</i> (strong aversive reaction)	<i>Neutral, Disgust</i>	Women experienced much stronger disgust; men less emotionally engaged
2B. Edible insect farming: <i>Acheta domesticus</i>	<i>Disgust</i> (slightly lower than 2A)	<i>Neutral, Disgust</i> (more detached)	Men showed more emotional distance, less aversion
3. Comparison of nutritional value of livestock and insects	Increase in <i>Neutral</i> , decrease in <i>Disgust</i>	<i>Neutral</i> (stable emotions)	Scene perceived as informational; no strong emotions for either gender
4. Comparison of environmental impact of livestock and insect farming	<i>Surprise, Neutral</i>	<i>Neutral</i>	Both genders reacted positively; women more surprised
5. Food products/dishes prepared with insect flour	<i>Disgust, Scared, Sad</i>	<i>Disgust, Scared</i> (lower than women)	Women experienced stronger fear and threat
6. Food products/dishes containing visible insects (A: larvae, B: dried crickets)	<i>Disgust, Angry</i>	<i>Disgust</i>	Women reacted with stronger disgust than men

CONCLUSION

Gender plays a significant role in shaping responses to entomophagy. Combining survey results with real-time emotional analysis provides a more nuanced understanding of the psychological barriers to insect consumption. The results also highlight the importance of tailoring educational and communication strategies to different levels of emotional sensitivity to promote sustainable dietary choices effectively.