How to Measure Knowledge about Food Sustainability?

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1 Introduction

Our daily food choices have a huge impact on the environment and on climate change. However, most consumers are not aware of the environmental impact of food production and consumption[1]. Knowledge about factors that influence food sustainability is an important determinant of food attitudes and behavior and part of many education strategies. To the author's knowledge, there is no valid and reliable measure of knowledge regarding food sustainability.

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2 Method overview

An initial set of 40 questions were tested in a sample of Swiss adults (N = 612, 50% females). Based on statistical analyses and content considerations the best performing items were selected (Figure 1 for examples). The final set of questions building up the knowledge questionnaire consists of 15-question (FSK-15). The multiple-choice like questions vary in difficulty and are related to food production and transportation. People also have to select the most sustainable food choice out of a set of options.

Pro-environmental value orientation (PEVO)[2] leads to pro-environmental attitudes, which in turn promotes sustainable behavior. Therefore, PEVO in addition to pro-environmental purchasing behavior[3] were used as an indication for the new scales validity.

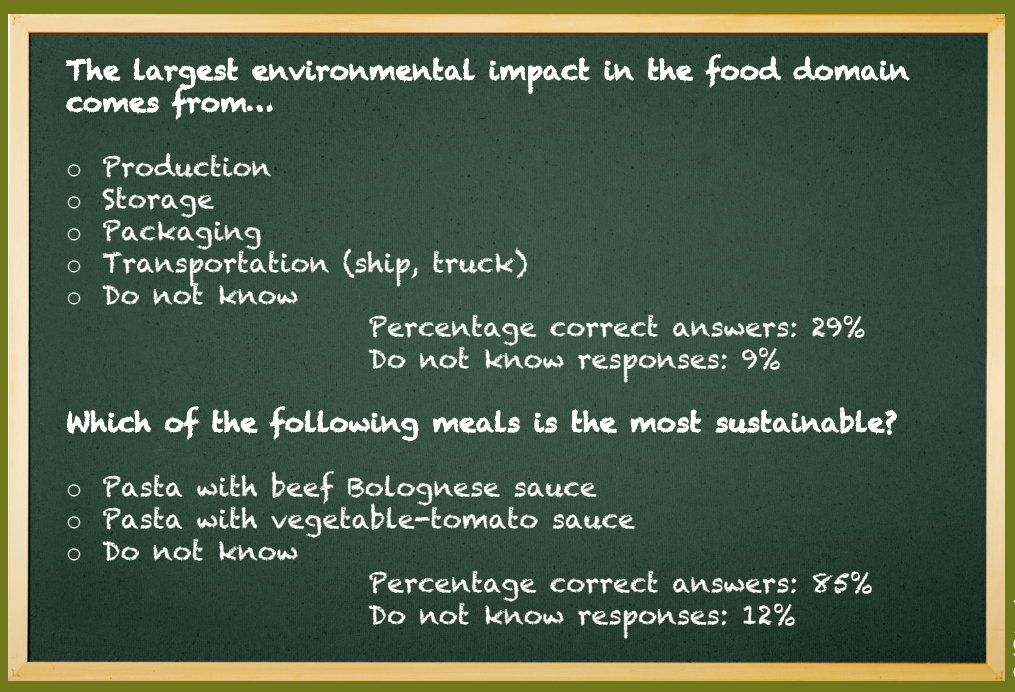

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Figure 1: Two example questions of different difficulty from the newly developed questionnaire measuring consumers' knowledge about food sustainability.

3 Results and discussion

Based on statistical analyses, the scale turned out to has good internal validity (Cronbach's Alpha = .75) and criterion validity, thus meets standard psychometric criteria.

Younger and higher educated participants achieved higher scores on the knowledge questionnaire. Participants attitudes towards the environment and their self-reported purchasing behavior also correlated with the achieved scores (Table 1).

Table 1: Correlation coefficients for achieved scores on the FSK-15 questionnaire and participants socio-demographic and attitudinal characteristics.

	FSK-15
Age	-0.11*
Gender (1 = men, 2 = women)	-0.11*
Education	0.23*
Pro-environmental purchasing behavior	0.12*
PEVO – Environmental apathy	-0.27*
PEVO – Anthropocentric value orientation	-0.06^{ns}
PEVO – Ecocentric value orientation	0.17
Eating certain foods for environmental reasons	0.08^{ns}

Note: *p<.001, ^{ns} not significant. FSK-15: Food sustainability knowledge scale – 15 questions; PEVO: Pro-environmental value oreintation

5 Conclusion

The new scale turned out to be psychometrically sound. Consumer's ability to select sustainable foods and the effectives of educational interventions could be tested with the scale.

6 References

1. Hartmann, C. & Siegrist, M. (2017). Consumer perception and behavior regarding sustainable protein consumption: A systematic review. *Food Quality and Preferences* 61: 11-25

2. Soyes, K., Hoffmann, S., Wünschmann, S., Gelbrich, K. (2009). Proenvironmental value orientation across cultures. Development of a German and Russian Scale. *Social Psychology*, Vol 40(4): 222-233.

3. Schlegelmilch, B B (1996). The link between green purchasing decisions and measures of environmental consciousness. *European Journal of Marketing*, Vol 30 (5): 35-55.