

"The more you know, the better?"

The effects of consumer knowledge on willingness to consume insect food

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Introduction

Insect food has recently gained a lot of interest in Western countries. Many consumer studies suggest that experiences and knowledge about insect food increase the likelihood of consuming it. Our purpose is to analyse on a deeper level how consumer knowledge influences willingness to buy (WTB) insect food.

We operationalize consumer knowledge into three dimensions: subjective knowledge, objective knowledge and product experiences. Additionally, we measure food neophobia and attitudes. As willingness to consume insects is culturally relative, we adopt comparative approach between Northern and Central Europe.

Methods

An online survey was conducted in Finland, Sweden, Germany and Czech Republic in May-June 2016. The dataset consists of 887 responses ($n_{north}=430$ [$n_{fin}=232$, $n_{swe}=198$]; $n_{central}=457$ [$n_{ger}=236$, $n_{cze}=221$]). Both subsets are biased towards females and young and educated people.

Objective knowledge was measured by 11 true/false statements. Subjective knowledge, product experiences, food neophobia and general attitudes were measured with statements adopted from the literature. WTB was measured using one statement and six pictures of different insect food products, equipped with short written descriptions of them.

The data was analysed with descriptive statistics and two-step structural equation modelling, including confirmatory factor analysis and multi-group modelling.

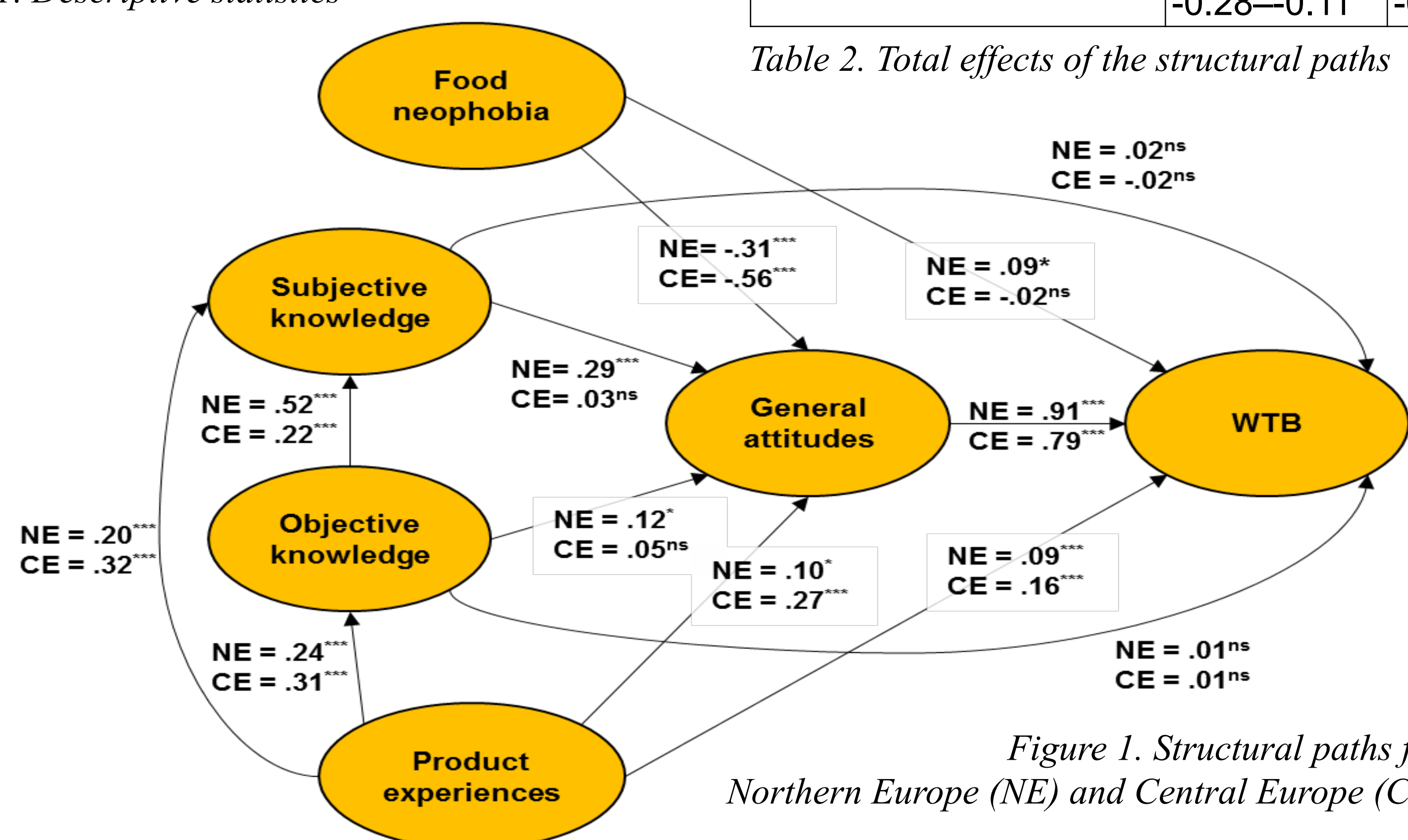
Results

Means	Northern Europe	Central Europe	p
WTB (1-7)	3.3	2.7	<.001
General attitudes (1-7)	4.6	3.2	<.001
Food neophobia (1-7)	2.3	3.3	<.001
Pr. experiences (0-1)	0.4	0.3	<.01
Subj. knowledge (1-7)	4.0	3.3	<.001
Obj. knowledge (0-11)	4.4	4.2	NS

Table 1. Descriptive statistics

Total effects (Est. and 95 % CIs)	Northern Europe	Central Europe
WTB ← Subj. knowledge	.29*** 0.18–0.40	.00 ^{ns} -0.08–0.08
WTB ← Obj. knowledge	.28*** 0.20–0.36	.05 ^{ns} -0.02–0.12
WTB ← Pr. experiences	.31*** 0.22–0.39	.38*** 0.30–0.47
WTB ← Food neophobia	-.19*** -0.28–0.11	-.47*** -0.55–0.39

Table 2. Total effects of the structural paths



Descriptive statistics. Northern European consumers are generally more positive towards insect food than consumers in Central Europe (Table 1).

Structural equation models. Acceptable model fits for the both regional measurement and structural models were achieved. The total effects (Table 2) of subjective and objective knowledge on WTB are significant in Northern Europe, but not in Central Europe. The total effect of product experiences is equal across the regions, and the negative total effect of neophobia is stronger in Central than in Northern Europe. More detailed regional differences in the structural paths are presented in Figure 1.

Discussion

Consumer knowledge affects WTB insect food through attitudes, and the effects of distinct types of knowledge differ across Northern and Central Europe. Thus, when promoting insect food, *educational strategy*, i.e. providing information of eating insects may be more effective in Northern Europe, whereas *sensorial strategy*, i.e. enabling people to try insect food, may appeal better to the Central European consumers. Overall, Northern Europe might currently be a better market area for insect food.

The limitations relate to the online survey method and biased sample. A more comprehensive investigation analysing representative samples of consumers from all European countries would be required to confirm the current results.