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Assessing differences in levels of food trust between European Countries.

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Highlights

- Consumer trust in food differs significantly between countries.
- High consumer trust does not relate to low distrust, in relation to food.
- Countries exhibit similar consumer trust and distrust across the constructs.

Abstract

Introduction

As the globalisation of the food market continues, consumer trust in the food supply chain and the related actors are vital for the functioning of the food industry. While past research has primarily focused on consumer trust within countries and how it can be increased, studies on cross country differences and the comparison between trust and distrust are limited to review articles. To address this gap, this study investigates the levels of trust and distrust in food products and organisations across four European countries (Finland, Germany, Greece and the UK).

Methods

Using a previously validated consumer Trust Toolkit (Benson et al., 2020), an online cross-sectional survey explored consumer's trust in food and in food supply chain actors. In addition to this toolkit measuring trust and distrust constructs, the questionnaire for the current study also included relevant sociodemographic,

household, and psychological items. The data was analysed using ANOVAs, descriptive statistics and regressions using SPSS v26.

Results

Overall, consumers (n=1027) had a high level of trust in an EU food product (beef burgers; mean=3.981; SD=1.353) and the organisations involved in creating and certifying the product (organisations; mean=4.263 SD=1.129, food chain; mean=4.434, SD=1.177). The data found that Finnish and UK consumers had the highest levels of trust overall, while German and Greek consumers had lower trust in their food and food-related organisations. Interestingly, Finnish consumers reported the highest levels of distrust in food-related organisations, which indicates that food-related distrust is more nuanced than simply being the opposite of food-related trust. These findings are discussed in relation to the cultural context of each country and risk practises.

Conclusions

The levels of food trust and distrust differs across countries highlighting the need for developing different business and organisational strategies to market products in different countries/cultures. Understanding consumers' trust in food and in food-related organisations is the first step in benchmarking and improving consumer trust across Europe.

Word Count Abstract: 311

Keywords:

Trust, Distrust, Food, Consumer, Country differences

1.0 Introduction

As the globalisation of the food market continues, consumer trust in the food supply chain and in food supply chain actors are vital to the functioning of the food industry (Houghton et al., 2006). Consumer trust in a product's sourcing, processing and retailing is a key predictor of purchasing intentions and behaviour (Hong & Cha, 2013; Hong & Cho, 2011). As consumer systems and production are complex, with many stages undertaken between producers and consumers, which are 'invisible' to consumers, the measurement of levels of trust relating to different trust types are required (Coveney et al., 2015). In our previous work (Benson et al., 2020), four types of trust were identified; general (interpersonal) trust, trust in food chain actors, trust in organisations and trust in food products. Two types of distrust (general and organisational) were also identified. How these trust/distrust types differ across countries form the basis of this article.

While past research has primarily focused on consumer trust within countries and how it can be increased, some reviews have highlighted country differences in trust; advocating the need for better communication with the public and the need for consumer research across different cultural contexts (Aertsens et al., 2009; Kendall et al., 2019). We focused on countries who were regulated in food safety directives within the EU (Bondoc, 2016a; Bondoc, 2016b). Thus, four countries (Finland, Germany, Greece and the UK) who have different experiences with food scandals were chosen to be examined in the current study.

1.1 Choice of countries for comparison

The UK and Germany are large, well-researched European food economies, which have experienced significant food safety scandals over the last 30 years. The Bovine Spongiform Encephalopathy (BSE) outbreak in the 1990s (Smith et al., 2007) and the 'horsemeat scandal' (Tse et al., 2016), led to reduced sales of affected products (Halkier et al., 2007). Unsafe and inauthentic food can lead to an increase in distrust in the food system. Food manufacturers, the media and specific marketing techniques have been linked to previous food safety scandals and viewed as distrustful institutions (Dolgoplova et al., 2015; Poppe & Kjærnes, 2003). In comparison, both Finland and Greece have not experienced large-scale food safety scandals that affected food sales. Finland and Greece are also smaller understudied food economies, based in Scandinavia and the Mediterranean, which are important comparators in international trust research. These regions also differ significantly in their levels of consumer (general) trust and cultural norms (Kjærnes, 2006).

1.2 Trust constructs (General, organisational, chain and product)

General Trust is a measure of how trusting an individual is in general as a person (Stefani et al., 2008). Within general trust, Germany is typically regarded as a 'lower trust economy', an exception amongst both central European countries and highly developed markets (Fritz & Fischer, 2007; Peters et al., 2007; Poppe & Kjærnes, 2003). Similarly, the UK and Greece have low levels of general trust (Edelman, 2018; Ervasti et al., 2019; European Food Safety Authority., 2010). The economic difficulties experienced in Greece during their "bail-out crisis" (2010-2018) was shown to have an insignificant effect on their long-term general trust (Ervasti et al., 2019). Finland historically has high levels of trust between individuals (Wiseman & Popov, 2015). Therefore, we anticipate these trust levels to be reflected in the general trust measure from the four countries in this survey.

Organisational trust is how much an individual trusts an organisation which oversees a part of the food chain (but is not necessarily part of the food chain). e.g. Food safety authority. Finland has a reputation for strong food safety regulation

organisations, especially in locally produced products; which are highly trusted by their consumers (Finnish Food Safety Authority, 2018; Järvelä et al., 2006; Poppe & Kjærnes, 2003). Greek consumers have been found to have low levels of awareness about quality certification of food products and the organisations involved in this (Botonaki et al., 2006). UK respondents rated governmental organisations and scientists (in universities rather than in industry) as the most trustworthy organisations; ranking the food industry the lowest in trustworthiness (Houghton et al., 2006)

Food chain trust refers to how much an individual trusts the actors or organisations involved in food production; such as farmers. Greek consumers had been identified as having high levels of concern for food production and quality (European Commission., 2012); which may be linked to significant political and economic turmoil lowering organisational/impartial institutional trust (Ervasti et al., 2019). Similarly, German consumers have reported low trust in food manufacturers (Dolgoplova et al., 2015) with marketing techniques by food manufacturers highlighted as a specific concern (Dolgoplova et al., 2015). UK consumers have high levels of trust in food chain actors, such as farmers but this was linked to the belief that the produce was "local" i.e. British (Duffy et al., 2005). Finland's research on food chain actor trust is under-developed and focuses predominantly on trust and beliefs relating to organic food rather than the actors (Nuutila & Kurppa, 2017). Therefore, food chain trust needs further investigation.

Product trust is how much an individual trusts a specific product (in this instance, EU beef burgers). UK respondents have high trust in their beef products, with 47% of UK respondents believing beef to be "very safe" to eat, the highest measured in seven European countries (overall mean 29%) (Poppe & Kjærnes, 2003). One reason for this high trust may be that most beef consumed in the UK is from the UK (81%) (National Beef Association (UK), 2015). In comparison, German respondents had the lowest levels of believing their beef to be "very safe" (18%) (Poppe & Kjærnes, 2003). In Berg et al' study (2005), over two-thirds of Danish and Norwegian respondents had high trust in the safety of beef, even amidst a foot and mouth crisis. This indicates Scandinavian countries have high trust in beef, which may correspond to Finland within this survey. Greek trust in beef products has been under-researched, but improved traceability of meat products (especially for brand-names) encouraged an increased willingness to pay among Greek consumers (Kehagia et al., 2007).

It is important to note that the timing of the survey was such that, Brexit and its implication for food supplies and regulation in the UK could be a confounding factor which need to be taken into account when comparing UK consumers with the other EU countries and their trust profiles (Matthews, 2016).

1.3 Differences in Trust and Distrust

Trust is a diffuse and complex concept which has been measured across many disciplines. Many dictionaries imply distrust to be an opposite concept of trust; with distrust to be “no trust in” (verb) and a “lack of trust; doubt; suspicion” (Flexner & Hauck, 1993) describing trust/distrust as opposite sides of the same coin (Harrison McKnight & Chervany, 2001). The most relevant and cited definition of trust is that it is “the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party” (Mayer et al., 1995). In comparison, distrust is believed to be associated with different emotions than trust; such as the survival instinct and protection from harm (Harrison McKnight et al., 2002; Harrison McKnight & Chervany, 2001) and has a greater effect on high-risk behaviours and choices (Harrison McKnight et al., 2002). Assessing both constructs as distinct constructs and measuring them separately is vital to accurately represent the differences in motivations (willingness to be vulnerable in trust: the survival instinct in distrust) influencing consumers’ behaviours (Cho, 2006; Dietz & Den Hartog, 2006).

1.4 Aims

This study aims to; identify and understand differences in trust and distrust across different European countries. In addition, the study investigates the relationship between trust and distrust in relation to food.

1.5 Hypotheses

H1: Levels of consumer trust in the different constructs (general trust, organisational trust, food chain actor trust and product trust) will be significantly different across the countries.

H2: Levels of consumer trust and consumer distrust will be significantly different.

H3: The consumer trust in a food product (e.g. EU beef burgers) will be significantly correlated with their level of general trust, their organisational trust and their level of trust in the involved food chain actors.

2.0 Materials and Methods

2.1 Design

An online survey was conducted using the previously developed and validated trust toolkit (Benson et al., 2020). In addition to this toolkit measuring trust and distrust constructs, the questionnaire for the current study also included relevant sociodemographic (e.g. What is your current occupation status?), household (e.g. Are

you responsible for the food and grocery shopping in your household?), and psychological items such as the level of risk perceived by the participant within their society (e.g. Economic crises like recession).

Six trust and distrust constructs were assessed in total. Each item was rated on 7-point semantic-differential scales ranging from 'strongly disagree' (1) to 'strongly agree' (7). These scales were scored to indicate higher levels of trust and distrust from higher scores. For three constructs, specific organisations and products were used (Organisational trust & distrust (*European Food Safety Authority (EFSA)*); Product trust (EU beef burgers). A full list of questions can be found within Benson et al, (2020) (Table 4). Specifically, the types of trust and distrust examined were:

- General trust. Trust at the individual level. How trusting an individual is in general as a person. Total of five items such as '*Most people are basically honest*'.
- **Organisational** trust. How much an individual trusts an organisation which oversees a part of the food chain (but is not necessarily part of the food chain). Total of seven items, such as '*EFSA has practices that favour the consumer's best interests*'
- Food chain trust. How much an individual trusts the actors or organisations involved in food production. A total of 17 items, such as '*Food manufacturers are honest about the safety of food*'.
- Product trust. How much an individual trusts a product (in this instance, EU beef burgers). EU beef burgers were chosen as they are a product which has been involved in previous food scandals in the EU and is commonly consumed throughout the relevant countries. A total of 10 items, such as '*I trust that EU beef burgers are authentic*'.
- General distrust. Distrust at the individual level. How distrusting an individual is in general as a person. A total of four items, such as '*I never rely on other people*'.
- Organisational distrust. How much an individual distrusts an organisation. A total of three items, such as '*Information from EFSA is distorted*'.

To further inform the model, other measures including an adapted version of the risk perception scale (Siegrist et al., 2005) – which measured how risky participants considered hazards to be (range 1-5) and how this influences a person's decisions and behaviour was added. Individuals were asked to what extent they were interested in seeking food safety risk information if new risks to food safety were discovered (adapted from (Etienne et al., 2018)). Participants were asked to select types of information, such as 'general description of the risk' and 'technical or scientific details', which was used as a score (range 0-7) to indicate individual's

interest in seeking food safety information, with higher scores indicating higher interest.

Reporting was guided by the STROBE criteria (Vandenbroucke et al., 2014). Ethical approval was granted by the Queen's University Belfast School of Biological Sciences Research Ethics Committee.

2.2 Sampling

Individuals were invited to participate in the survey by a research agency (Dynata) from their online panel on their platform of consumers in Finland, Germany, Greece and the UK in 2018. Individuals were paid a small fee to complete the survey. Individuals completed a series of screening questions to assess their eligibility to take part in the study, which took approximately 20 minutes to complete. To reduce bias, anyone aged under 18 or working in (or living in a household with anyone working in) food safety, food processing or manufacturing as well as the farming, growing, wholesale or retail of food or drinks were excluded.

A statistical power analysis using G-Power calculations (Faul et al., 2007) was performed for sample size estimation, comparing trust and distrust profiles between countries; able to detect small effect sizes (0.25: (Cohen, 1988). With an $\alpha = .05$ and power = 0.80, the projected sample size needed with this effect size (Faul et al., 2007) was $n=253$ per group. Therefore, the sample size of 1027 was suitably powered for the analysis conducted.

2.3 Data analysis

Data analysis was conducted using IBM SPSS Statistics v25. As a forced response option was used in the survey, no data was missing. Descriptive statistics were used to explore the individual level data. Groups were compared using T-tests and χ^2 tests. Between-country differences were assessed using Analysis of Variance (ANOVAs) with bonferroni post-hoc tests. Pearson's correlations were used to assess relationships between the trust constructs. Finally, to understand the most important influences on product trust, hierarchical multiple regressions were conducted. All analysis was considered significant at a level of 0.05.

3.0 Results

3.1 Participants

In total, 1,027 individuals participated; representative (approximately) in terms of gender, age and region (maximum $\pm 8\%$ difference between population figures and sample achieved). Of the 1,027 respondents, the majority were female (53%), had a

mean age of 46.99 (SD= 16.95, range= 18 to 85) and were split equally over the 4 countries (UK = 256; Germany = 257; Finland = 253, Greece = 253), (Table 1). Participants were similar in profile across countries except on educational attainment ($p < 0.001$). Greek respondents were most likely to be university educated (60.2%), while university-level attainment was lower in German (22.2%) and Finnish (23.4%) participants.

Insert Table 1 here

There were significant differences between countries across all four trust constructs ($p < 0.001$). Therefore, hypothesis 1 was supported (Figure 1). Germany and Greece consistently had lower general, food chain and product trust than Finland and the UK; while Germany had the lowest organisational trust, (Table 2, Figure 1).

Hypothesis 2 was supported as the two distrust constructs differed significantly across countries ($p < 0.001$), Figure 1. Finland reported the highest levels of organisational and general distrust across countries, while Greece had the lowest levels of general distrust. There were no differences in organisational distrust between Germany, Greece and the UK. There was a similar dispersion to general and organisational trusts in Finland with both trust and distrust types being high.

Insert Table 2 and Figure 1 here

As expected, chain, organisation and general trusts were significantly correlated with product trust ($r = 0.561$, $P < 0.001$; $r = 0.499$, $P < 0.001$; $r = 0.321$, $P < .001$ respectively), Table 3. Therefore hypothesis 3 was supported.

A hierarchical multiple regression analysis showed the relationship between sociodemographic, trust and distrust variables and product trust (EU beef burgers), Table 4. In the baseline model sociodemographic factors, accounted for 1.9% of the variance in product trust, with a significant independent contribution ($P < .001$). The addition of the trust and distrust variables to the final model, explained a further 40.3% (42.2% overall) of the variance ($P < .001$). The variables contributing most significantly to explain the variance in the final model included chain trust, organisational trust and age (Table 3).

Insert Table 3

Insert Table 4 here

Subgroup analysis showed that age-grouping was significant for 3 trust constructs (General ($p < 0.001$), chain ($p = 0.045$) and product ($p < 0.012$) trusts). Younger participants (< 34 years-old) had higher levels of product trust, while general trust increased as respondents age increased. Chain trust was complicated with 18-25 and over 65-year-olds being more likely to have higher chain trust, while 35-54-year-olds had lower chain trust. This change occurred in the 24-34-year-old age group, which was split evenly.

There were significant cultural differences between countries in risk perception ($p < 0.001$) and information sources sought ($p = 0.028$), Table 2 (Secondary findings). Greek respondents had the highest perception of risk in their general lives, while all countries desired approximately 3.5 information sources, although those in the UK sought the most number of sources for information ($p = 0.028$).

4.0 Discussion

To the best of our knowledge, this is the first study to use a validated trust toolkit (Benson et al., 2020) to show how the norms and cultural context of different countries affect the different constructs of consumer trust (chain, general, organisational and product trust). Finnish and UK respondents reported higher levels of trust across the trust/distrust constructs than German and Greek respondents. Overall, Finnish respondents also reported the highest levels of general and organisational distrust, which were previously validated as separate constructs (Benson et al., 2020). Our findings further strengthen the standing of trust and distrust as separate constructs. We discuss how these findings may have been influenced by national issues and how it can be used.

Our finding of higher consumer trust in Finland and the UK is generally in line with previous research (Aertsens et al., 2009; Järvelä et al., 2006; Poppe & Kjærnes, 2003). However, the UK's high scores in general trust and chain trust are higher than those reported in the previous research (Edelman, 2018; European Food Safety Authority., 2010). Similarly, in Germany and Greece the general level of trust is low (Dolgoplova et al., 2015; Ervasti et al., 2019; European Commission., 2012; Fritz & Fischer, 2007; Peters et al., 2007; Poppe & Kjærnes, 2003). This implies that, in these countries, individuals have low levels of trust in each other.

Within the sample, there was no effect of gender on the trust constructs, despite males usually shown to exhibiting a more trusting attitude towards food (Berg, 2004; Kjærnes, 2006; Poppe & Kjærnes, 2003). General trust in others increased as respondents aged, reflecting what has been shown in large international studies (Li & Fung, 2013). However most of the trust studies have been cross-sectional data, which are prone to differences in cohorts/generations, rather than longitudinal studies showing that trust increases as one ages (Li & Fung, 2013).

Previous food safety crises in the UK and Germany, have shown minimal effects on consumer trust (Poppe & Kjærnes, 2003; Wales et al., 2006). One theory is that these consumers have been "desensitised" (Ding et al., 2013) to food scandals, as Germany has experienced over 25 noticeable food contamination incidents since 2000 (Rieger et al., 2016). These multiple incidents may be linked to the lower trust across the trust constructs in Germany. In comparison, the consequences of food safety crises, such as increased regulation and technological sophistication, have been linked to strengthening long-term consumer trust; especially produce from perceived "high competence countries", such as Germany and Ireland (Barbarossa et al., 2016). This may explain why countries who have undertaken public enquires into food safety, such as the Elliott review (UK) (Elliott, 2014) has increased trust over time in previously lower trust countries.

At an organisational trust level, there were high levels of trust in the statutory body, the EFSA in all the countries except Germany. Higher organisational trust has been shown to moderate the 'scare' impact of food crises, especially amongst highly educated groups (Lobb et al., 2007). The German sample was less likely to have a university-level qualification, which may be a contributing factor in explaining why their trust in organisations was lower than the other included countries.

Within the UK sample, there was high trust in the EFSA, even with the advent of Brexit. The UK regulations have provisioned for the transfer of EFSA responsibilities for food safety to the Food Standards Agency (Chartered Institute of Environmental Health, 2019); and future research within the UK should explore how organisational trust changes after the transfer of responsibilities and if there is a change after the transfer of responsibilities. However, this is dependent on future Brexit negotiations.

Further, trust in the food chain (food manufacturers) is probably the most important predictor of consumer confidence in the safety of food products (de Jonge et al., 2008). In the correlation model (Table 3), trust in the chain was the highest predictor of trust in the product. Despite food labelling approaches being described as "disparate and non-cohesive" (Tonkin et al., 2015), food labelling has the capacity to improve trust in food chain actors (such as food manufacturers).

Several other factors have previously been identified as important in building food-related trust; communication of information and appreciation of potential risks. For communication, respondents sought 3.5 sources of information on average about food, with UK respondents seeking the most sources and German respondents the least. Previous research identified German consumers were less likely to rely on the media for their information than other countries: suggesting that information in Germany should be disseminated via research or medical organisations/professionals (Dolgoplova et al., 2015). Information from the media consistently amplifies the negative effects affecting the likelihood to purchase (Lobb et al., 2007). The media coverage of the health safety risks of food-related scandals had a significantly negative influence on affected meat product consumption (Rieger et al., 2016). The importance of clear, independent and trustworthy information sources for food scares has been raised previously within the Elliott report (Elliott, 2014), and is supported by our findings. Overall, the low levels of trust reported by German and Greek respondents' highlights the need for greater consumer-trust building in these countries; which is challenging in countries with sceptical consumers (Van Kleef et al., 2007).

In relation to trust and distrust as concepts in relation to food, we showed that they are different constructs as trust is not always correlated to lower distrust; as found in Finland and Greece. One of the key issues that may explain this lack of correlation

between countries trust and distrust may be, the presence of governmental/authorised bodies (outside of industry), which “oversee” food quality. These bodies have been linked to decreases in food distrust through the reduction of vulnerabilities through strong legislation and vigilance (Ekici, 2004; Wideback, 2011). A lack of such bodies can decrease the protection consumers feel they have; a key ingredient in increasing distrust (Harrison McKnight et al., 2002; Harrison McKnight & Chervany, 2001). Industry/“big business” being perceived as influencing food safety protection was identified by US consumers as a main source of distrust in food (Ekici, 2004).

Perception of risk in food safety has previously been highlighted as a factor in national-specific differences between countries (Van Kleef et al., 2007). In some countries, such as Greece, their previous experience of poor reactive risk management, in incidents such as mould contaminated honey, may be linked to their high-risk perception in this study (Van Kleef et al., 2007).

The results further indicate that the interventions to improve food trust across countries should be aware that consumers in different countries have different baseline levels of trust, distrust and risk perception. Interventions should be tailored to each country as countries (such as Finland and Germany) have vastly different profiles across the trust constructs.

Strengths and limitations

The trust toolkit (Benson et al., 2020) has been validated across multiple countries, showing broad application and has been assessed for multiple types of validity and reliability. It has also been shown to be consistent across 4 languages. By using the validated toolkit in the current study, this research can be confident in the cross-cultural findings. The use of a relatively large overall sample size (approximately representative of each country) was a further strength of the current study, with findings adequately powered. However, the use of a cross-sectional method limits the ability to track changes in trust or pinpoint cause and effect relationships. In addition, the inclusion of four European countries limits the study in its applicability outside of Europe, especially in the east (Krockow et al., 2017; Yamagishi & Yamagishi, 1994).

Future research should expand this work by comparing other markets and countries to identify trust differences; especially in Asia, where attitudes to trust in food may differ from European markets (Krockow et al., 2017; Yamagishi & Yamagishi, 1994). Future research applying the items to different examples e.g. products or organisations would also show validity and reliability in different cultural contexts.

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Conclusion

In conclusion, the consumer trust toolkit highlighted differences in food trust and distrust between countries; specifically, consumer trust in Finland and the UK being higher compared to the consumer trust in Germany and Greece. Further, disentangling of trust and distrust in relation to food has shown that trust profiles differ across countries; with high trust in food not correlating with low distrust, indicating that trust and distrust are different constructs.

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Declaration of competing interest

None.

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Tables

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Table 1: Characteristics of participants for each country

Characteristic/country	Finland	Germany	Greece	UK	Total n (%)
Gender	253 (100%)	257 (100%)	261 (100%)	256 (100%)	1027 (100%)
Male	119 (47%)	117 (46%)	121 (46%)	126 (49%)	483 (49%)
Female	133 (53%)	139 (54%)	140 (54%)	129 (50%)	541 (51%)
Other	1 (0%)	1 (0%)	0 (0%)	1 (0%)	3 (0%)
Age					
18-24	34 (13%)	27 (11%)	31 (12%)	30 (12%)	122 (12%)
25-34	39 (15%)	39 (15%)	56 (22%)	40 (16%)	174 (17%)
35-44	46 (18%)	40 (16%)	55 (21%)	36 (14%)	177 (17%)
45-54	38 (15%)	45 (18%)	47 (18%)	46 (18%)	176 (17%)
55-64	26 (10%)	36 (14%)	42 (16%)	39 (15%)	143 (14%)
65+	70 (28%)	70 (27%)	30 (12%)	65 (25%)	235 (23%)
Highest level of completed education					
Primary school or incomplete secondary education	27 (11%)	15 (6%)	3 (1%)	14 (6%)	59 (6%)
Completed secondary education (GCSE/10 th Grade USA)	103 (41%)	43 (17%)	47 (18%)	42 (16%)	235 (23%)
A-Level/High School Diploma or vocational qualification	53 (21%)	142 (55%)	52 (20%)	100 (39%)	347 (34%)
Undergraduate degree	28 (11%)	16 (6%)	101 (29%)	65 (25%)	210 (20%)
Postgraduate degree or doctorate	31 (12%)	41 (16%)	56 (22%)	35 (14%)	163 (16%)
Prefer not to answer	11 (4%)	0 (0%)	2 (1%)	0 (0%)	13 (1%)
Marital status					
Married or living with partner	127 (50%)	154 (60%)	161 (62%)	148 (58%)	590 (57%)
Never married	77 (30%)	56 (22%)	65 (25%)	64 (25%)	262 (26%)

Separated/widowed/divorced	44 (17%)	44 (17%)	29 (11%)	41 (16%)	158 (15%)
Prefer not to answer	5 (2%)	3 (1%)	6 (2%)	3 (1%)	17 (2%)

* Percentages may not total 100% due to rounding

Table 2: Differences in levels of trust, distrust, risk perception and information sources between Finland, Germany, Greece and the UK measured using the Trust Toolkit (Benson et al., 2020)

	Overall sample (n = 1027)			Finland (n = 253)	Germany (n = 257)	Greece (n = 261)	UK (n = 256)
	Mean (SD)	F (df)	p	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
<i>General Trust</i>	4.253 (1.188)	56.233 (3,1023)	<0.001	4.751 (1.013) ^a	4.179 (1.134) ^b	3.572 (1.129) ^c	4.531 (1.128) ^a
<i>Chain Trust</i>	4.434 (1.177)	20.413 (3,1023)	<0.001	4.539 (1.148) ^a	4.061 (1.172) ^b	4.082 (1.118) ^b	4.698 (1.140) ^a
<i>Organisational Trust</i>	4.263 (1.129)	6.417 (3,1023)	<0.001	4.315 (1.144) ^a	4.005 (1.119) ^b	4.329 (1.065) ^a	4.405 (1.151) ^a
<i>Product Trust</i>	3.981 (1.353)	15.568 (3,1023)	<0.001	4.227 (1.321) ^a	3.741 (1.379) ^b	3.666 (1.231) ^b	4.300 (1.364) ^a
<i>Organisational Distrust</i>	4.321 (1.100)	16.701 (3,1023)	<0.001	4.733 (1.137) ^a	4.191 (1.112) ^b	4.227 (1.001) ^b	4.139 ^a (1.049) ^b
<i>General Distrust</i>	3.497 (1.251)	92.744 (3,1023)	<0.001	4.403 (1.159) ^a	3.269 (1.090) ^b	2.813 (0.985) ^c	3.527 ^a (1.209) ^d
<i>Risk Perception¹</i>	3.616 (0.747)	44.113 (3,1023)	<0.001	3.377 (0.703) ^a	3.523 (0.659) ^a	4.037 (0.689) ^b	3.516 (0.761) ^a
<i>Information Sources sought</i>	3.56 (2.02)	3.035 (3,1023)	0.028	3.57 (1.98) ^a	3.26 (1.96) ^b	3.65 (2.00) ^a	3.77 (2.10) ^a

Mean scores with different letters are significantly different between the countries (Bonferroni's test, $p < 0.05$).

¹ On a 5 point scale

647 **Table 3: Correlations between the trust measurement factors which contribute to Product Trust (EU beef burgers).**
 648 **(Pearson's R)**

<i>Model</i>	<i>1</i>	<i>2</i>	<i>3</i>
Product Trust	-		
Chain Trust	.561**	-	
Org Trust	.499**	.446**	-
General Trust	.321**	.364**	.321**

649 *. Correlation is significant at the 0.05 Level (2-Tailed)

650 **. Correlation is significant at the 0.01 Level (2-Tailed)

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662 **Table 4: Hierarchical multiple regression predicting Product Trust (EU beef burgers).**

Prediction	Product Trust	Model 1		Model 2	
	Variables	B (SE)	β	B (SE)	β
<i>Sociodemographic</i>	Age	-1.136 (0.255)	-.143**	-1.252 (0.201)	-.158**
	Sex	-2.071 (0.861)	-.077*	-2.505 (0.663)	-.094**
<i>Trust Factors</i>	Organisational	-	-	.202 (0.019)	.286**
	General	-	-	.173 (0.085)	.061*
	Chain		-	.648 (0.045)	.395**
	Org. Distrust	-	-	.182 (0.104)	.044
	Gen. Distrust	-	-	.177 (0.077)	.065*
<i>F</i>	10.677**			107.921**	
<i>Adjusted R²</i>	0.019**			0.422**	

663 *. Correlation is significant at the 0.05 Level (2-Tailed)

664 **. Correlation is significant at the 0.01 Level (2-Tailed)

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667 Figure

668 Figure 1 Differences in Trust and Distrust factors in Finland, Germany, Greece and the UK

669 Credit Author Statement

670

671 **Blain Murphy:** Writing- Original draft preparation, Investigation, Formal Analysis

672 **Tony Benson:** Conceptualization, Methodology, Investigation, Formal Analysis,

673 Writing- Reviewing and Editing

674 **Fiona Lavelle:** Conceptualization, Methodology, Writing- Reviewing and Editing.

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