

TESTING AN EXTENDED MODEL OF ORGANIC FOOD PURCHASING BEHAVIOUR

Abstract. *Using the modified theory of planned behaviour, this paper focuses on consumers' organic food purchasing behaviour. Consumers' subjective knowledge, their social comparison with significant others, and attitudes to organic fruit and vegetables are studied by the structural equation modelling method. In addition, consumers' perceived self-efficacy, intention to perform the behaviour in question, and the frequency of their purchasing decisions are examined. Most organic food studies have so far only focussed on intention, assuming that it will naturally transform into behaviour. On the contrary, this paper also considers consumers' purchasing decisions whose social comparison with significant others best predicts the intention to purchase those products. The research model's suggestion that both intention and perceived self-efficacy significantly predict purchasing frequency is confirmed.*

Keywords: *theory of planned behaviour, perceived self-efficacy, social comparison, organic fruit and vegetable purchasing behaviour*

Introduction

The European organic food market has been growing rapidly over the last 15 years due to consumers' health concerns and demands for safe food. Scholars' interest in studying those consuming organic food and their behaviour has also been growing. The theory of planned behaviour (Ajzen, 1991) is likely the most popular social-psychological model for understanding and predicting how organic food consumers behave. The theory assumes that this behaviour is affected by intention which, in turn is determined by three kinds of influence: attitudes to the behaviour, subjective norms concerning the behaviour, and perceived behavioural control of the behaviour. Beyond the factors that constitute the theory itself, the theory recognises the importance of other variables (demographic characteristics,

* Mateja Žibret, PhD Student at the Faculty of Social Sciences, University of Ljubljana, Slovenia; Mitja Hafner-Fink, PhD, Associate Professor, Faculty of Social Sciences, University of Ljubljana, Slovenia; Mihael Kline, PhD, Assistant Professor, Faculty of Social Sciences, University of Ljubljana, Slovenia.

knowledge, life values, general attitudes, personality traits, and so forth) that drive consumers' decisions. They are considered background factors and are expected to only indirectly influence intention and behaviour via their effects on behavioural, normative and control beliefs (Ajzen, 2015). Many of these have already been studied, with several conclusions being drawn (Zepeda and Deal, 2009; Kareklas et al., 2014). Considering only the concepts that make up the theory of planned behaviour, the biggest findings of past studies should be mentioned. First, studies of consumers' behaviour with regard to organic food typically examine their perceived self-efficacy in the context of perceived behavioural control, and not as an independent construct as proposed by Bandura (1997). Second, although the role of important others (relatives, friends or acquaintances) is well recognised in the above studies (Sparks and Shepherd, 1992; Dean et al., 2008), scholars do not examine the influence of health and nutrition professionals on consumers' organic food choices. Finally, studies rarely look at the influence of intention on behaviour, although this relationship lies at the core of the theory of planned behaviour. If this causal relationship is studied, it is weak and mostly statistically non-significant (De Canniere et al., 2009; Richert et al., 2011). Therefore, this study aims to research the role played by health and nutrition professionals in the behavioural outcome of consumers with respect to organic fruit and vegetables. It also studies the influence of intention on behaviour, although we do not expect the former to have a strong effect on the latter. We believe the inconclusive influence of intention is probably the result of various situational factors that influence the final decision to purchase. Finally, this study aims to examine perceived self-efficacy and how it influences consumers' intention and behaviour, by adding perceived knowledge to the proposed research model (Figure 1), as explained in more detail below.

Theoretical background and hypothesis development

Ajzen (1991) claimed that consumers' behaviour is based on their intention to perform the behaviour under consideration, as determined by three constructs: attitudes to the behaviour, subjective norms, and perceived behavioural control. The first refers to the degree to which a person has a favourable or unfavourable evaluation of the behaviour in question, the second relates to perceived social pressure to perform or not perform it, while the third explains the perceived ease or difficulty of performing the behaviour. Ajzen also argues that the perceived behavioural control is most compatible with Bandura's concept of self-efficacy and, in reference to him (Bandura, 1982), clarifies that someone's behaviour is strongly influenced by self-confidence in their ability to perform it. However, the latter is

associated with their perceived knowledge and skills, since Bandura (1997) explains that people judge their capabilities regarding challenging activities in terms of their knowledge and skills.

According to social-psychological rational theories, people seek to understand the world around them and constantly try to obtain adequate information about it (Katz, 1960). The latter also applies to consumers whose prior knowledge facilitates the acquisition of new information and increases search efficiency (Brucks, 1985). Consumers search for information to reduce their uncertainty regarding possible product alternatives (Urbany et al., 1989) when making decisions between organic and conventional food. They develop positive or negative attitudes to organic food by developing and building up their knowledge about such products (Pieniak et al., 2010; Aertsens et al., 2011). It is very likely that knowledge represents the only instrument consumers have available to differentiate the attributes of organic and conventional food. Moreover, they form positive attitudes to products under consideration which then influences the intention to purchase them (Gracia and de Magistris, 2007). When studying consumers' knowledge of organic food products, many researchers follow the distinction between objective and subjective knowledge. In Brucks' definition, *subjective knowledge* is defined as what consumers perceive they know, while objective knowledge denotes what they actually know (Brucks, 1985). Burton (2005) claimed studies of objective knowledge should also consider possible effects of random guessing on test reliability related to the wrong or right answer. Given that Pieniak et al. (2010) have already established that objective knowledge influences general attitudes with very low accuracy, this study concentrates solely on consumers' subjective knowledge and how it influences attitudes to organic fruit and vegetables. Accordingly, we designed the first hypothesis, namely:

H1: Consumers' subjective knowledge about organic food production and processing legislation has a significant positive effect on their attitudes to organic fruit and vegetables. Those with a high level of subjective knowledge have more positive attitudes to organic fruit and vegetables than those with poor knowledge.

Further, the social influence on consumers' behaviour is recognised by many authors, and is commonly studied in the context of subjective norms that are defined as perceived social pressure to perform or not perform a behaviour (Ajzen, 1991; Bagozzi et al., 2002). Similar to Festinger's social comparison theory (1954), Bandura (1991) claims that when people are not much committed to personal standards they became adept at

reading social situations and guiding their actions according to expediency. However, people not only observe a person's behaviour but also their opinions about the unknown or insecure reality (Festinger, 1954). By learning about the world around them, people acquire experiences about it, which further makes their final decisions easier. This study follows the idea that today there are in the market still too many uncertainties about organic food and its effects on health and the environment (Magkos et al., 2006; Hoefkens et al., 2009). In line with the latter, *social comparison* is defined as a person's comparison of their opinions and behaviour with significant others to obtain accurate information about organic food products and their attributes. In this manner, social comparison relates to subjective knowledge to some extent because they are both associated with a broader construct, namely a consumer's perception of products. The latter is a complex process by which consumers select, organise and interpret sensory stimulation to create a meaningful picture of the world (Ule, 1996). To the best of our knowledge, no one has yet studied the effect of consumers' social comparison with health and nutrition professionals, although we believe they can influence their organic food choices. Therefore, three hypotheses about consumers' comparison with significant others were designed:

H2: Consumers' social comparison with healthy food consumers and healthy lifestyle professionals has a significant positive effect on their attitudes to organic fruit and vegetables.

H3: Consumers' social comparison with healthy food consumers and healthy lifestyle professionals has a significant positive effect on their perceived self-efficacy when engaging in purchasing decisions on organic fruit and vegetables.

H4: Consumers' social comparison with healthy food consumers and healthy lifestyle professionals has a significant positive effect on the intention to purchase organic fruit and vegetables.

Although the theory of planned behaviour considers attitudes to the behaviour, this study examines *attitudes to the object*, namely organic fruit and vegetables. The first refers to a person's beliefs in a certain outcome of a specific behaviour, and the second refers to beliefs about objects, associating them with particular attributes (Ajzen, 1991). As the latter are often named general attitudes in behavioural studies, this labelling will also be used when the measurement instrument is presented and examined. Assuming a high level of knowledge and sufficient motivation is needed to become involved in organic fruit and vegetables purchasing behaviour, we hypothesised:

H5: Consumers' positive attitudes to organic fruit and vegetables have a significant positive effect on the intention to purchase them.

H6: Consumers' positive attitudes have a significant positive effect on their perceived self-efficacy when engaging in purchasing activities concerning organic fruit and vegetables.

Apart from subjective norms which are herein replaced with the social comparison concept, and attitudes to the behaviour which are substituted by the concept of attitudes to the object, the theory of planned behaviour postulates that perceived behavioural control determines a person's intention to engage in the behaviour in question. Finally, it also suggests that intention transforms into behaviour. As Ajzen (1991) already highlighted that perceived behavioural control is similar to Bandura's concept of self-efficacy, its influence on intention and behaviour has also been studied. In this study, *perceived self-efficacy* is defined as a consumer's belief in their capability to achieve the designated performance level that exercises influence over events that affect their behaviour in question (Bandura, 1997). Seen as a strong motivational factor that influences behaviour, *intention* is defined as "an indicator of how hard people are willing to try and how much of an effort they are planning to exert to perform the behaviour" [Ajzen, (1991): 181]. In line with the study by Richert et al. (2010), and together with Ajzen's claims that self-efficacy beliefs can influence a person's choice and preparation of activities, and the effort expended during the performance (Ajzen, 1991), the final three hypotheses were formulated:

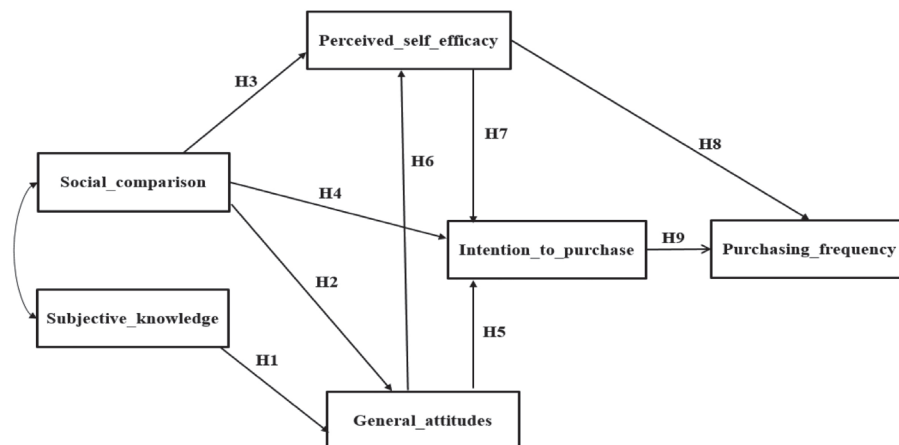
H7: Perceived self-efficacy has a significant effect on the intention to purchase organic fruit and vegetables.

H8: Perceived self-efficacy has a significant effect on the frequency of organic fruit and vegetables purchases.

H9: A consumer's intention to purchase organic fruit and vegetables has a significant effect on the frequency of such purchases.

Finally, consumers' *purchasing behaviour* is usually defined very broadly as "the process and activities that people engage in when searching for, selecting, purchasing, using, evaluating, and disposing of products and services, aiming to satisfy their needs and desires" (Belch and Belch, 1993). In this study, *purchasing behaviour* is defined more narrowly, applying to consumers' self-reported evaluation of how often they purchase organic fruit and vegetables due to their price, availability, appearance, taste, seasonality and local production.

Figure 1: THE THEORETICAL MODEL AND HYPOTHESISED RELATIONSHIPS AMONG THE CONCEPTS



Source: own research.

Methods

To test our theoretical model (see Figure 1), we used a typical social survey design with a questionnaire specially developed for the purpose. To analyse the data, we used path analysis within structural equation modelling (SEM). Before the final SEM analysis, we conducted exploratory factor analysis to obtain valid and reliable measurement instruments for the variables included in the model.

Data collection and sample

Using the 1 KA online survey service,¹ we conducted a web survey that included indicators for all variables (theoretical concepts) from the model. We initiated the survey by sending email invitations to 90 individuals from the author's own address book. They were asked to follow the attached link to find the questionnaire on organic fruit and vegetables purchasing and forward the message to anyone they thought would be willing to participate in this research. In addition, a link and the invitation to participate in the survey were posted on the author's Facebook. Between 24 May and 24 June 2016, 1,067 clicks on the link were recorded but finally only 601 participants

¹ 1KA is an open source application that enables services for online surveys. It combines support for the development, design and technical creation of an online questionnaire, the implementation of an online survey, and compiling and analysing data and paradata.

who had completed at least 50% of all questions in the questionnaire were included in the research. The sample is not representative. It comprises 166 males and 298 females, and 137 participants who did not provide gender information. They are mostly aged between 21 and 60 years, highly educated since nearly 50% hold at least a university degree, and are financially well placed². In past studies, the latter characteristics were often related to their greater preparedness to pay a premium price for organic food products. Therefore, it is very likely that some conclusions on purchasing behaviour do not reflect the actual market situation.

Constructing the measurement instruments

All theoretical concepts are measured using measurement scales that included several items (indicators). Answer categories ranged over seven-point scales, mostly from complete disagreement (1 = strongly disagree) to complete agreement (7 = strongly agree). A consumer's specific subjective knowledge is measured by levels of confidence ranging from a complete absence of confidence (1 = not at all confident) to full confidence (7 = very confident), while purchasing behaviour is measured by the frequency of their purchases (1 = never, 7 = always).

Subjective knowledge is measured with six statements based on EU Council Regulation No. 834/2007 on organic food production practices, labelling, and their control. The respondents were initially asked to indicate whether a statement is false or true and then immediately asked to evaluate whether they believe their answer is correct. The second part of the question is introduced to measure a subjective knowledge, which we consider as more specific than knowledge that is typically considered in organic food consumers' studies, and labelled subjective knowledge (Pieniak et al., 2010; Aertsens et al., 2011).

General attitudes are estimated with nine items, following similar surveys (Gil et al., 2000; Chen, 2007). All the statements are used to study both concepts jointly and measure organic fruit and vegetables. Afterwards, the questionnaire is split into two sections, each aiming to compare possible differences between both product categories.

While *intention to purchase* organic fruit and vegetables is measured by three items for fruit and three items for vegetables, *perceived self-efficacy* was measured with a total of eight items. The first items were taken from Richert et al. (2011) and the second from similar organic food consumer studies (Chen, 2007; Urban et al., 2011).

² The data file can be obtained on request from the first author.

In the end, *social comparison* and *purchasing behaviour* are measured by 12 items each. The first relates to significant others' opinions and behaviours and is measured by the scale developed by Gibbons and Buunk (1999). The second is self-designed to measure purchasing frequency regarding six product attributes: price, availability, appearance, taste, seasonality and local production.

To examine whether the items included in the questionnaire accurately measured the proposed theoretical concepts, principal axis factoring analysis with 53 items and no rotation was implemented. The first results showed there was no difference between organic fruit and organic vegetables based on their loading onto the same factor. Therefore, there was no further need to examine two different models of two product categories. All items included in the analysis resulted in 15 factors, which together explain 64.28% of the variance. As the data were not perfectly suited for performing factor analysis ($KMO = .616$; $c^2(378) = 4194,751$; $p = .000$), the removal of poor items was considered. Using principal component analysis with a Varimax rotation, and a step-by-step approach to improving the measurement instruments for theoretical variables, 31 items were kept for the main analysis (Appendix). In the end, seven components explained 70% of the variance and the results showed the data were suited at the 'middling' level ($KMO = .762$; $c^2(465) = 2660,436$; $p = .000$) (Kaiser 1974). When performing the final factor analysis, all concepts except for the concept for measuring self-efficacy corresponded to one separate component. Items for measuring perceived self-efficacy corresponded to two components with high factor loadings ($\lambda > .70$). The results strongly suggest this concept is multidimensional, therefore providing support for Bandura's theory (1997) that different skills and capabilities are needed for different activities in order for someone to successfully perform the behaviour. Considering Cronbach's alpha ($C. Alpha = 0.69$), which shows an acceptable level of reliability (Ferligoj et al., 1995), we decided to merge both components into a single measurement instrument. Based on the factor analysis results, new variables were composed and later included in the analysis as indexed variables (Table 1).

Path analysis within structural equation modelling (SEM) was the central method for testing our model of the factors that influence the frequency of organic food purchases. The model and hypothesis were examined with the AMOS statistic software tool, which provides a maximum likelihood (ML) method that allows researchers to perform analysis with missing data. This method helped us to study all respondents who had bought organic fruit and vegetables at least once in the week preceding the day they participated in the research, even though later they may not have provided answers on how often they bought them in terms of the six product attributes they were studied.

Table 1: FINAL MEASUREMENT INSTRUMENTS FOR THEORETICAL CONCEPTS

	alpha	M	SD
Subjective_knowledge	0.76	5.41	1.25
Organic fruit and vegetables may be irradiated to improve conservation.		5.26	1.49
Genetically modified seeds are allowed in organic fruit and vegetables production.		5.90	1.29
Synthetic pesticides are not allowed in organic fruit and vegetables production.		5.79	1.35
Social_comparison	0.93	4.83	1.25
I often try to find out what people who eat healthy think about organic vegetables.		5.05	1.35
I often try to find out what people who eat healthy think about organic vegetables.		5.35	1.26
I am very interested whether people who eat healthy regularly purchase organic fruit.		4.63	1.51
If I want to learn more about organic vegetables, I try to find out what people who I trust think about it.		5,22	1.28
I often like to talk with people I trust about mutual opinions and experiences regarding organic vegetables.		5,05	1.24
If I want to learn more about organic fruit, I try to find out what people who I trust think about it.		5,29	1.30
I am very interested whether people who eat healthy regularly purchase organic vegetables.		4.96	1.44
I often like to talk with people I trust about mutual opinions and experiences regarding organic fruit.		5.27	1.14
General_attitudes	0.92	6.14	0.81
Organic fruit and vegetables are healthy.		6.47	0.74
Organic fruit and vegetables are safe.		6.34	0.80
Organic fruit and vegetables have quality.		6.21	0.82
Organic fruit and vegetables have no harmful effects on the environment.		6.31	0.82
Organic fruit and vegetables are tasty.		6.19	0.92
Organic fruit and vegetables are animal-friendly.		6.18	1.01
Perceived_self_efficacy	0.69	4.18	1.09
I am capable of checking whether the vegetables I purchase are organically produced.		4.15	1.54
I am capable of checking whether the fruit I purchase is organically produced.		4.03	1.59
If I take enough time, I can purchase organic vegetables at a good price.		4.50	1.43
If I take enough time, I can purchase organic fruit at a good price.		4.82	1.15

	alpha	M	SD
Intention to purchase	0.91	3.63	1.41
I am determined to purchase organic vegetables before I go shopping.		4.95	1.45
I am planning to purchase organic fruit before I go shopping.		5.16	1.31
I am determined to purchase organic fruit before I go shopping.		4.87	1.33
I am determined to purchase organic vegetables before I go shopping.		5.01	1.46
I make a list of organic vegetables I intend to purchase before I go shopping.		3.66	1.69
I make a list of organic fruit I intend to purchase before I go shopping.		3.35	1.65
Purchasing_frequency	0.83	3.15	1.31
I purchase organic vegetables because of seasonality.		3.34	1.63
I purchase organic vegetables because of the good price.		3.11	1.63
I purchase organic fruit because of seasonality.		3.08	1.61
I purchase organic fruit because of the good price.		3.05	1.64

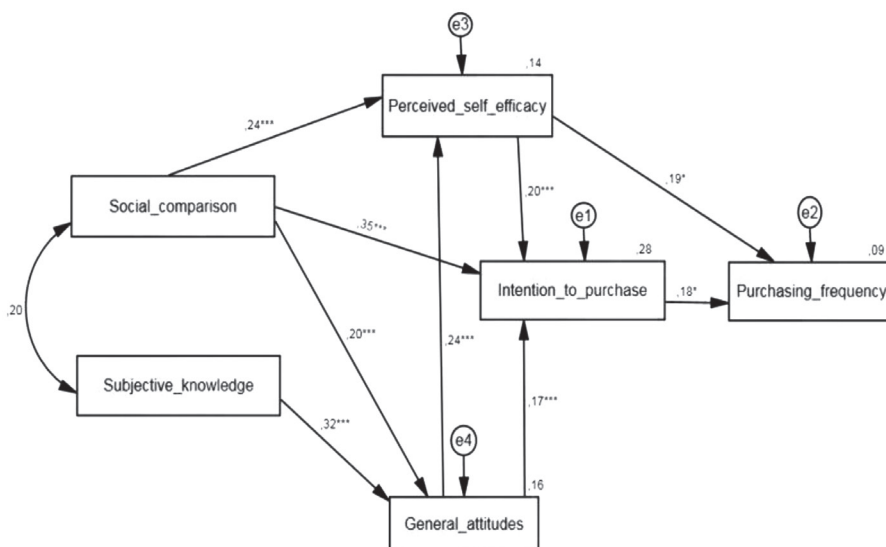
Source: own analysis.

Results

Path analysis was conducted on a sample of respondents who answered all questions, including whether they had bought organic fruit and vegetables in the last week ($n = 337$). The analysis focused on two direct (self-efficacy and intention) and three indirect (social comparison, subjective knowledge, and general attitudes) predictors of the frequency of purchasing organic fruit and vegetable products (Figure 2). Overall, six variables were included in the model, and nine relationships were studied. The model is recursive, meaning that disturbances are uncorrelated, and all causal effects are unidirectional (Kline, 1998). It contains two exogenous and four endogenous variables.

The results show the model had a good fit with the data ($\chi^2(5) = 5,446$; $p = .364$; $CMIN/df = 1.089$). Moreover, all goodness-of-fit indices were good ($RMSEA = .016$; $NFI = .977$; $RFI = .905$; $IFI = .998$; $TLI = .991$, $CFI = .998$ (Kline, 1998). The RMSEA value obtained was .000 to .079, at a 90% confidence interval. Only 9% of the variation in the observed organic fruit and vegetables purchasing frequency was explained by intention and self-efficacy ($R^2 = .09$). Both the variation in general attitudes, explained by subjective knowledge and social comparison ($R^2 = .16$), and the variation in perceived self-efficacy, explained by social comparison and general attitudes ($R^2 = .14$), were higher. Finally, the variation in the intention to purchase organic fruit and vegetable products, which was explained by social comparison, general attitudes and perceived self-efficacy, was ($R^2 = .28$) the highest.

Figure 2: EXTENDED MODEL OF ORGANIC FRUIT AND VEGETABLE PURCHASING BEHAVIOUR



$\chi^2 (5) = 5,446; p = .364; CMIN/df = 1.089; NFI = .977; RFI = .905; IFI = .998; TLI = .991; CFI = .998; RMSEA = .02.$

Source: own analysis.

All the predicted hypotheses are confirmed at the level of $p < .001$, namely $p < .05$. The latter applies to the influence of the intention to purchase organic fruit and vegetables and perceived self-efficacy on purchasing frequency (Table 2). The results show that consumers who believe they know the rules that apply to the organic food chain in general create strong attitudes regarding organic fruit and vegetables. In other words, they develop strong beliefs about what organic food brings to them and stakeholders in the social and natural environment ($\beta = .32$). In past studies, respondents were usually asked to evaluate their general beliefs about the level of the knowledge they possess (Pieniak et al., 2010). On the contrary, the consumers in this research were initially asked questions about organic food legislation and rules that apply to production, labelling and control mechanisms, and then immediately asked to evaluate the correctness of their answers.

The relationship between subjective knowledge and social comparison is weak ($r = .20$), although both presumably derive from consumers' inner motivation to organise and interpret information into meaningful schemas about organic food and related subjects. In this respect, further studies of the determinants that might strengthen this relationship are suggested, keeping

in mind that social comparison could motivate consumers to pursue the desired goals. The latter is strongly supported by the highly statistically significant ($p < .001$) influence of social comparison on the intention to purchase organic fruit and vegetables ($\beta = .35$), and its influence on perceived self-efficacy ($\beta = .24$). Both results suggest that consumers who compare their opinions and behaviour with significant others (such as health and nutrition professionals, athletes and organic food consumers) more likely develop the intention to purchase these products, and more likely to develop the capabilities needed to overcome any obstacles in the market. It also demonstrates the role of significant others for the future growth of the overall organic food market, especially given that the highest total ($\beta = .44$) effect of one variable on another in the examined model comes from social comparison on intention. In addition, although the direct effect of social comparison on purchasing frequency was not predicted in the research model, the AMOS output results show the former has the strongest indirect influence on the latter ($\beta = .14$) compared to other concepts that were examined.

Table 2: STANDARDISED ESTIMATES AND SIGNIFICANCE TEST OF DIRECT CAUSAL RELATIONSHIPS IN THE RESEARCH MODEL

Criterion variable		Predictor variable	β	p	Hypothesis and status	
General_attitudes	<---	Subjective knowledge	0.32	***	H1	accepted
General_attitudes	<---	Social_comparison	0.20	***	H2	accepted
Perceived_self_efficacy	<---	Social_comparison	0.24	***	H3	accepted
Perceived_self_efficacy	<---	General_attitudes	0.24	***	H4	accepted
Intention_to_purchase	<---	Social_comparison	0.35	***	H5	accepted
Intention_to_purchase	<---	General_attitudes	0.17	***	H6	accepted
Intention_to_purchase	<---	Perceived_self_efficacy	0.20	***	H7	accepted
Purchasing_frequency	<---	Intention_to_purchase	0.18	*	H8	accepted
Purchasing_frequency	<---	Perceived_self_efficacy	0.19	*	H9	accepted

*** $p < .001$; ** $p < 0.01$; * $p < 0.05$

Source: own analysis.

In general, the role of consumers' social comparison with significant others is probably the most important finding of this study. When consumers lack knowledge of existing market regulations and the benefits of organic food for them and other stakeholders, it is important that they trust food and health authorities. As the results confirm, they consequently develop positive attitudes to organic fruit and vegetables ($\beta = .20$) which further lead to the intention to purchase them ($\beta = .17$) and to positive beliefs in their competencies they need to engage in purchasing behaviour ($\beta = .24$). Finally, the results suggest almost no differences between consumers' perceived self-efficacy ($\beta = .19$) and their intention to purchase organic fruit and vegetables ($\beta = .18$), and their influence on the frequency of purchasing.

However, the total effect of the former on the central dependent variable ($\beta = .23$) shows that intention partly mediates the relationship between perceived self-efficacy and behaviour. The latter is probably related to the time category, which is found in both measurement instruments, and affects the influence of perceived self-efficacy on intention ($\beta = .20$), and strengthens the relationship between both variables ($r = .36$). Consumers who are willing to invest time in purchasing activities are more effective when engaging with them and also planning the purchase of products before they visit the shopping place.

Conclusion

Our study confirms the main assumptions of the theory of planned behaviour and the relationships between the basic concepts the theory proposes. In addition, it supports Ajzen's claim (2015) that people's intention and behaviour follow reasonably and consistently from their beliefs, no matter how these beliefs were formed. Considering that consumers mostly associate organic food with the health concerns and well-being of others (animals, environment etc.) (Gracia and de Magistris, 2007), our study mainly focused on the subjects relevant for accomplishing these goals. It was designed on the foundations of consumers' rational choices, which are primarily based on their knowledge and a different set of market alternatives from which to choose. In general, the participants showed a high level of perceived knowledge, and that they are familiar with substances that are forbidden in organic food production or with mandatory practices that shield them from potential deception in this market. Together with the influence of the healthy lifestyle advocates, who can strongly contribute to organic food promotion in the market, consumers' knowledge significantly adds to the level of their internal motivation to eat healthy food products. However, to eat them, consumers today mostly must purchase them first, which sometimes brings into play different obstacles consumers face in the market. In line with past studies (Chrysohoidis and Krystallis, 2005; Henryks et al., 2014), it is confirmed that the high cost of organic fruit and vegetables, their appearance and their seasonal character are among the biggest obstacles to purchasing them. On the contrary, being locally produced, tasty and available in the stores are the strongest reasons for consumers to purchase them, as already recognised (Feldmann and Hamm, 2015). Although organic food is generally considered less »affordable«, this study implies that its price and availability are not obstacles to purchasing it when consumers develop the intention to purchase and believe they have the skills, knowledge, capabilities and external support needed to perform the behaviour. It is very likely that highly motivated consumers who believe these products are safer and

healthier than their counterparts will purchase them, irrespective of their appearance or their high price. The latter is already confirmed by studies which report that families with young children are willing to pay more for organic food products to prevent them from possible food risks in connection to the consumption of conventionally produced food (Davies et al., 1995; Hill and Lynchehaun, 2002). However, our research results come from a non-representative sample which mainly consists of highly educated and financially well-positioned respondents with the latter therefore being considered a limitation of our study.

The results confirm that intention has an influence on purchasing behaviour, although it is not as strong as we initially assumed. One possible answer relates to the possibility that some respondents produce their own (healthy) food, which reduces the likelihood of purchasing them, especially in warmer months. As our research was conducted during this period of the year, this might be considered another limitation of the study. The second possible answer relates to the appearance of organic fruit and vegetables, which Hughner et al. (2007) also saw as a factor that reduces the transformation of intention into behaviour. Compared to their conventional substitutes, these products are not allowed to be treated with infrared radiation to extend the shelf-life of foods, and therefore their cosmetic defects become visible faster. We suggest that both factors (the seasonality and appearance of such products) and their possible moderator effects be considered in more detail in the future.

Based on the results provided by the different factor analyses we conducted in this study, we also encourage scholars that not simply in the context of different marketing reasons and perceived behavioural control but also in the context of consumers' self-efficacy to avoid the generality of the concepts they study. In other words, to achieve stronger causal relationships between concepts under study, scholars are highly recommended to focus on the situations of interest, even though this could be very difficult, if not impossible (Ajzen and Madden, 1986). The latter is also in line with the understanding of perceived self-efficacy held by Bandura (2006), who claims that having capabilities to produce one attainment (to visit different stores to purchase organic food products) does not mean that a person has capabilities to produce another (to evaluate whether the products are produced according to organic standards). Therefore, we strongly recommend that scholars carefully consider the existing market opportunities together with different situations regarding the skills and capabilities consumers need to engage in purchasing activities before applying them to organic food behaviour studies.

Finally, quantitative studies of this kind mainly provide a general insight into the relationships among the concepts under scrutiny, but usually lack

a deeper insight into factors that drive consumer behaviour. Our study shows that the strongest direct and indirect influence on organic fruit and vegetables consumers' decisions comes from the social environment, but we are still unable to adequately answer why, how and to what extent this influence happens. Therefore, we suggest that future studies focus more on qualitative aspects to respond to the above questions and help shed light on the complexity of consumers' organic food decisions in general.

Appendix:

PRINCIPAL COMPONENT ANALYSIS

Item	Component							Communi- nality
	1	2	3	4	5	6	7	
Social_comparison								
I often try to find out what people who eat healthy think about organic vegetables.	.893							.831
I often try to find out what people who eat healthy think about organic vegetables.	.854							.738
I am very interested whether people who eat healthy regularly purchase organic fruit.	.811							.689
If I want to learn more about organic vegetables, I try to find out what people who I trust think about it.	.782							.643
I often like to talk with people I trust about mutual opinions and experiences regarding organic vegetables.	.779							.715
If I want to learn more about organic fruit, I try to find out what people who I trust think about it.	.760							.648
I am very interested whether people who eat healthy regularly purchase organic vegetables.	.757							.593
I often like to talk with people I trust about mutual opinions and experiences regarding organic fruit.	.671							.550
General_attitudes								
Organic fruit and vegetables are healthy.		.911						.868
Organic fruit and vegetables are safe.		.887						.851
Organic fruit and vegetables have quality.		.843						.740
Organic fruit and vegetables have no harmful effects on the environment.		.810						.752
Organic fruit and vegetables are tasty.		.757						.647
Organic fruit and vegetables are animal-friendly.		.749						.612
Intention_to_purchase								
I am determined to purchase organic vegetables before I go shopping.			.819					.737
I am planning to purchase organic fruit before I go shopping.			.796					.684
I am determined to purchase organic fruit before I go shopping.			.792					.696
I am determined to purchase organic vegetables before I go shopping.			.748					.663
I make a list of vegetables I intend to purchase before I go shopping.			.695					.581
I make a list of fruit I intend to purchase before I go shopping.			.606					.526

Item	Component							Communnality
	1	2	3	4	5	6	7	
Purchasing frequency								
I purchase organic vegetables because of seasonality.				.827				.755
I purchase organic vegetables because of the good price.				.825				.722
I purchase organic fruit because of seasonality.				.798				.693
I purchase organic fruit because of the good price.				.717				.694
Subjective knowledge (3 items)								
Organic fruit and vegetables may be irradiated to improve conservation.					.795			.705
Genetically modified seeds are allowed in organic fruit and vegetable production.					.774			.697
Synthetic pesticides are not allowed in organic fruit and vegetable production.					.764			.684
Perceived self efficacy								
I am capable of checking whether the vegetables I purchase are organically produced.						.899		.839
I am capable of checking whether the fruit I purchase is organically produced.						.869		.813
If I take enough time, I can purchase organic vegetables at a good price.							.787	.735
If I take enough time, I can purchase organic fruit at a good price.							.763	.705
N = 131								

Source: own analysis.

PEARSON'S CORRELATION COEFFICIENTS

Correlation between variables	(1)	(2)	(3)	(4)	(5)	(6)
Subjective_knowledge (1)	1					
Social_comparison (2)	.11*	1				
General_attitudes (3)	.34**	.24**	1			
Perceived_self_efficiency (4)	.19**	.30**	.30**	1		
Intention_to_purchase (5)	.20**	.45**	.31**	.36**	1	
Purchasing_frequency (6)	.07 ns	.11 ns	.16 ns	.26**	.20*	1
**p < .05; *p < .01 (both two-tailed)						

Source: own analysis.

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