

The Theory of Planned Behaviour and Food Choices: The Case of Sustainable pre-packed Salad

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Introduction

The demand for sustainable food products is in continuous growth. There are many different instruments that can be used in order to signal to consumers environmentally-friendly characteristics of food products, among which product labelling. Organic certification is probably the most well-known. Many studies have investigated consumer preferences towards organic products (Andersen, 2011; Bravo et al., 2013; Breustedt et al., 2011; Falguera et al., 2012; Gil et al., 2000; Gracia and De Magistris, 2008; Meike and Ulrich, 2014; Krystallis et al., 2006; Lee Wan-Chen et al., 2013). Despite the relevance of this aspect, other crucial labelled product attributes related to the sustainability have not yet been widely investigated (Bazoche et al., 2014; Govindasamy and Italia, 1998; Magnusson and Cranfield, 2005; Yigezu et al., 2013).

The paper aims at understanding the main factors affecting consumer purchase of products that report environmentally-friendly labelled features. The analysis refers to minimally processed pre-packed salad with environmental-friendly labelled characteristics related to integrated pest management. The Theory of Planned Behaviour (TPB) (Ajzen, 1985) represents the conceptual framework of this analysis.

Purchases of such products show a steady upward trend in Italy (Freshfel, 2015). Most of the research about the food category of minimally processed vegetables focuses on microbiological quality, safety, processing and packaging issues (Fusi et al., 2016). The analysis on the determinants affecting consumers preferences towards environmental characteristics of such products are still underdeveloped (Sillani and Nassivera, 2015).

The paper is organized as follow. The next section will introduce the conceptual framework. Afterword, the methodology is presented. Results and some preliminary final remarks are placed at the end.

Conceptual framework

The TPB postulates that individuals' decision-making process is influenced by consumer evaluation on possible consequences of a certain behaviour, the expectation of reference individuals and the potential resources or impediments related to that behaviour. According to Ajzen's model (Ajzen, 1985), these considerations or beliefs result in the formation of different independent determinants of consumer intention to perform a certain behaviour: attitude towards the behaviour, perceived behavioural control and subjective norms. In our analysis, we did not take into consideration subjective norms.

According to the TPB, the antecedent of behaviour is the intention to perform behaviour. Generally, the stronger the intention to engage in behaviour, the more likely should be its performance. Furthermore, perceived behavioural control and attitudes influence intention directly.

Although the TPB has been successfully applied to predicting behaviour in many fields, the behaviour associated to food choices is complex and often characterized by apparent contradictions. Also in this paper, the focus of the study is on consumers' interest into two different and apparently inconsistent product attributes at the same time, i.e. convenience and environmental-friendly attributes. For this reasons, additional predictors could help to increase the understanding of consumer behaviour. According to the literature we extended the TPB by adding other predictors which were found to be significant in the literature to predict consumer green behaviour: consumer environmental behaviour (Steg and Vlek, 2009; Tobler et al., 2011; Turaga et al., 2010), environmental concern (Wandel and Buggel, 1997; Ignatow, 2006; De Groot and Steg, 2007), food shopping habits (Verplanken and Aarts, 1999; Van't Riet et al., 2011; Saba and di Natale, 1999; Honkanen et al., 2005) and consumer individual characteristics (Chekima et al., 2016).

Methodology

A survey was conducted in the Lombardy region of Northern Italy via face-to face interviews. The final sample consisted of 550 adult consumers. The questionnaire was designed using a multiple-choice format with rating or dichotomous scales. Different questions addressed the different elements related to the TPB model, including attitude, perceived behavioural control, the intention to buy integrated pest management vegetables, and consumer behaviour towards such products. In addition, we included variables concerning food shopping habits, consumer agricultural practices concerns, and some other variables, like socio-demographic and individual characteristics and consumer food related environmental behaviour.

Data were firstly analysed by means of confirmatory factor analysis. Secondly, we used structural equation modelling to analyse the relative importance of the constructs on the behaviour, i.e., the purchase of IPM pre-packed minimally-processed vegetables.

Results and preliminary implications

Preliminary results indicate that the TPB construct is verified. Attitude and perceived behavioural control influence positively consumer intention to buy IPM minimally processed vegetables. Moreover, consumer's intention is positively correlated with consumer behaviour towards such products.

Preliminary results show also a significant relation between buying integrated-pest-management pre-packed salad, income and gender. Consumer knowledge on the environmental issues play an important role in predicting the purchase of the analysed products. Also food shopping habits shows a positive relationship with consumer intention to buy IPM products. Interestingly, consumer concern towards agricultural practices is negatively correlated with consumer intention towards the analysed products.

Our analysis suggests that IPM pre-packed minimally-processed vegetables could represent an interesting convenience food characterised by an intermediate level of environmental and health attributes that could respond to medium levels of environmental and health concerns. Given their market position, such products could also represent a way for people with intermediate income levels to respond to their environmental and/or health preference.

Preliminary policy implications suggest that interventions aimed at promoting the purchase of IPM products should increase the knowledge about IPM products and about their environmental and health-related attributes, especially among those that do not adopt other environmentally friendly food behaviours. Having easy-recognisable and understandable logos also seem to have a role, as people that check labels regularly are more likely to purchase IPM products.

References

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckman (Eds.), *Action-control: From cognition to behavior*. Heidelberg: Springer.

- Andersen A.H. (2011). Organic food and the plural moralities of food provisioning. *Journal of Rural Studies*, 27(4), 440-450.
- Bazoche P., Combris P., Giraud-Héraud E., Seabra Pinto A., Bunte F., Tsakiridou E. (2014). Willingness to pay for pesticide reduction in the EU: nothing but organic? *European Review of Agricultural Economics*, 41(1), 87-109.
- Bravo C.P., Cordts A., Schulze B., Spiller A. (2013). Assessing determinants of organic food consumption using data from the German National Nutrition Survey, *Food Quality and Preference*, 28(1), 60-70.
- Breustedt, G., Latacz-Lohmann, U., Tiedemann, T. (2011). Organic or conventional? Optimal dairy farming technology under the EU milk quota system and organic subsidies. *Food Policy*, 36, 223-229.
- Chekima B., Wafa S.A., Wafa S.K., Igau O.A., Chekima S., Sondoh S.L. Jr. (2016), Examining green consumerism motivational drivers: does premium price and demographics matter to green purchasing?, *Journal of Cleaner Production*, 112, 3436-3450
- De Groot J., Steg L. (2007). General Beliefs and the Theory of Planned Behavior: The Role of Environmental Concerns in the TPB. *Journal of Applied Social Psychology*, 37(8), 1817–1836.
- Falguera V., Núria A., Falguera Mercè (2012). An integrated approach to current trends in food consumption: Moving toward functional and organic products?. *Food Control*, 26, 274-281.
- Freshfel (2015). Activity Report 2015. European Fresh Produce Association.
http://www.freshfel.org/docs/2015/Freshfel_Activity_Report_2015_-_resized.pdf
- Fusi A., Castellani V., Bacenetti J., Cocetta G., Fiala M., Guidetti R. (2016). The environmental impact of the production of fresh cut salad: a case study in Italy. *International Journal of Life Cycle Assessment*, 21, 162–175.
- Gil J. M, Gracia A., Sanchez M. (2000). Market segmentation and willingness to pay for organic products in Spain. *International Food and Agribusiness Management Review*, 3, 207–226.
- Govindasamy R., Italia J. (1998). A willingness-to-purchase comparison of integrated pest management and conventional produce. *Agribusiness*, 14(5), 403–414.
- Gracia A., de Magistris T. (2008). The demand for organic foods in the South of Italy: A discrete choice model, *Food Policy*, 33(5), 386-396.
- Honkanen P., Olsen S.O., Verplanken B. (2005). Intention to consume seafood—the importance of habit. *Appetite*, 45, 161–168.
- Ignatow, G. (2006). Cultural models of nature and society reconsidering environmental attitudes and concern. *Environment and Behavior*, 38(4), 441-461.
- Meike J., Ulrich H. (2014). Governmental and private certification labels for organic food: Consumer attitudes and preferences in Germany. *Food Policy*, 49, 437-448.
- Krystallis A., Fotopoulos C., Zotos Y. (2006). Organic consumers' profile and their willingness to pay (WTP) for selected organic food products in Greece. *Journal of International Consumer Marketing*, 19(1), 81–106.
- Lee Wan-Chen J., Shimizu M., Kniffin K.M., Wansink B. (2013). You taste what you see: Do organic labels bias taste perceptions?. *Food Quality and Preference*, 29(1), 33-39.
- Loureiro Maria L., Jill J. McCluskey, Ron C. Mittelhammer (2001). Assessing Consumer preferences for Organic, Eco-labeled, and Regular Apples. *Journal of Agricultural and Resource Economics* 26(2), 404-416.
- Magnusson E., J. A. L. Cranfield (2005). Consumer demand for pesticide free food products in Canada: a probit analysis. *Canadian Journal of Agricultural Economics*, 53(1), 67–81.
- Saba, A., and di Natale, R. (1999). A study on the mediating role of intention in the impact of habit and attitude on meat consumption. *Food Quality and Preference*, 10, 69–77.
- Sillani Sandro, Federico Nassivera (2015). Consumer behavior in choice of minimally processed vegetables and implications for marketing strategies, *Trends in Food Science & Technology*, 46(2), 339-345.

- Steg L., Vlek C. (2009). Encouraging pro-environmental behavior: an integrative review and research agenda. *Journal of Environmental Psychology*, 29, 309-317.
- Tobler C., Visschers V.H.M., Siegrist M. (2011). Eating green. Consumers' willingness to adopt ecological food consumption. *Appetite* 57, 674-682.
- Turaga, R. M. R., Howarth, R. B., & Borsuk, M. E. (2010). Pro-environmental behavior. *Annals of the New York Academy of Sciences*, 1185(1), 211-224.
- Van't Riet J., Siet J. Sijtsema, Hans Dagevos, Gert-Jan De Bruijn (2011). The importance of habits in eating behaviour. An overview and recommendations for future research, *Appetite*, 57(3), 585-596
- Verplanken, B., and Aarts, H. (1999). Habit, attitude and planned behaviour: Is habit an empty construct or an interesting case of goal directed automaticity? *European Review of Social Psychology*, 10, 101-134.
- Wandel M, Bugge A. (1997). Environmental concern in consumer evaluation of food quality. *Food Quality and Preference* 8(1): 19-26.
- Yigezu Yigezu A., Corinne E. Alexander, Paul V. Preckel, Dirk E. Maier, Linda J. Mason, Charles P. Woloshuk, John Lawrence, and Dale J. Moog (2013). Integrated joint pest management strategies in the presence of control spillovers. *Eur Rev Agric Econ* 40 (5): 785-805.