

Consumer decision-making regarding a “green” product

Consumer decision-making regarding a “green” everyday product

John Thøgersen,* Anne-Katrine Jørgensen, Sara Sandager

Aarhus School of Business, University of Aarhus, Denmark

* Corresponding author. Aarhus School of Business, University of Aarhus, Department of Marketing and Statistics, Haslegaardsvej 10, DK-8210 Aarhus, Denmark. Tel: +45 8948 6440. E-mail: jbt@asb.dk. John Thøgersen is professor of economic psychology Aarhus School of Business, University of Aarhus, Department of Marketing and Statistics. His main research interest is the motives behind and promotion of “green” consumer behavior. Anne-Katrine Jørgensen and Sara Sandager received their MSc in business administration from the same place. The data reported in this study were collected for their master thesis.

Consumer decision-making regarding a “green” everyday product

Abstract

Consumers are often assumed to be more highly involved when choosing “green” than “conventional” products, but does adding a “green” attribute actually make so much difference for how consumers make choices? Does it change the way consumers make decisions when buying groceries or do they just develop another, simple choice heuristics? Based on observation and follow-up interviews of consumers at the milk cold counter in supermarkets, we conclude that, rather than changing the way consumers make decisions when buying groceries, “green” attributes seem to lead to the development of new, simple choice heuristics or to the adaption of time-proven choice tactics, such as habit.

Key words: Decision-making, choice heuristics, “green” products

Consumer decision-making regarding a “green” common repeat purchase product

As convincingly demonstrated by Hoyer (1984) and others, consumers usually spend little time and effort when buying a common repeat purchase product (e.g., Alden, Hoyer, & Wechasara, 1989; Dickson & Sawyer, 1990; Macdonald & Sharp, 2000). In cases such as this, rather than striving to make the optimal choice, consumers seem content with a satisfactory solution while they minimize the amount of time and effort spent on the decision-making. To reach a satisfactory solution, they employ simplifying heuristics, such as choosing the option with the lowest price or a trusted brand, or just repeating a previous satisfactory choice.

Consumers' low involvement in this type of decisions can be attributed to the small difference between competing options and the low perceived risk. However, although the evidence that consumers are, in general, little involved in this type of decisions is strong, there may be exceptions. It seems likely that a consumer's involvement in the purchase of a common repeat purchase product can be elevated for both situational and enduring reasons (e.g., Richins, Bloch, & McQuarrie, 1992). For instance, a person is likely to be more involved in the choice of common food items for a dinner with important guests than for the usual weekday family dinner. Also, it seems likely that, say, an animal rights activist is in general be more involved with the choice of meat products than the average consumer.

In line with this reasoning, producers often add new features to their products that they hope will elevate consumer interest and involvement. A special case of this is products

with improved environmental and/or ethical characteristics, referred to as “green” products hereafter. It is often assumed that consumer involvement is higher when buying everyday products of this type (e.g., Schifferstein & Oude Ophuis, 1998; Zanolli & Naspetti, 2002). When innovative “green” products (i.e., organic food products, phosphate free detergents, etc.) are introduced on a market, low consumer involvement represents a barrier to entry (cf., Kleiser & Wagner, 1999). Hence, such “market challengers” undoubtedly hope that the “green” attribute will catch consumers’ attention, increase their involvement in the buying process and make them devote sufficient time and effort to the task to notice and comprehend the new product’s distinguishing characteristics. If this hope is borne out, it will greatly enhance the new product’s likelihood of getting a foothold in the market.

However, whereas a number of studies show that there are segments of consumers that are highly involved in protecting the environment in general (e.g., Dunlap, 2002) or in more specific environmental and/or ethical issues related to consumption (e.g., de Ferran & Grunert, 2007; Manzo & Weinstein, 1987; Vining & Ebreo, 1990), there is a lack of empirical evidence documenting whether or not this broader and (usually) enduring involvement is also reflected in (a higher involvement in) the choice of a “green” product. It is the objective of this paper to fill this gap.

Hypotheses

The empirical study reported in the following tests a number of hypotheses regarding consumers’ choice of a “green” common repeat purchase product. The studied product is drinking milk and the context is an ordinary shopping situation in a Danish supermarket. Close to 30% of the drinking milk sold in Danish supermarkets is organic milk (Biisgård,

2006), that is, milk with a “green” attribute. This makes this product category and context a suitable case for studying whether decision-making differs between consumers choosing “green” and “non-green” products.

The fact that large segments of consumers are highly and enduringly involved with environmental issues, as previously mentioned, may have implications for how they choose everyday products. Decision making research has thoroughly documented that high involvement in a decision leads to the employment of a more extensive or deliberate decision-making mode (Chen & Chaiken, 1999; Fazio & Towles-Schwen, 1999; Petty, Cacioppo, & Goldman, 1981). However, in cases where a person has made the same low-risk choice many times before, as may often be the case for a “green” everyday product, he or she may be little involved with a specific choice decision, although they are highly involved with the general (in this case, environmental) issue (Richins, et al., 1992). For example, d'Astous, Bensouda, and Guindon (1989, p. 348) found that “even for a relatively important, less frequently purchased product category such as analgesics, consumers do not engage in complex decision making processes”. Results such as these suggest that, rather than employing a different decision-making mode, the availability of “green” alternatives may lead to consumers learning new (simple) heuristics for choosing everyday products (Thøgersen, 2002).

Specifically, the study was designed to answer the following questions: Do consumers who choose “green” (i.e., organic) milk (a) perform a more extensive information search and/or (b) use more time for choosing milk than consumers who choose conventional milk? Do “green” consumers perform a more deliberate decision-making process at the point of purchase than “conventional” consumers? If they use simple choice heuristics, do

“green” consumers use different heuristics than “conventional” consumers? Our expectations are expressed in the following hypotheses:

H1: Consumers buying “green” everyday products are more involved in the buying decision than consumers buying “conventional” products, which means that they employ a more deliberate decision-making mode as reflected in a larger amount of information acquisition in the choice situation and longer time used to make the choice.

H2: Consumers buying “green” everyday products use different (simple) choice heuristics than consumers buying “conventional” products.

Method

In order to answer our research questions and test the hypotheses, we used a combination of methods (cf., Hoyer, 1984): (1) unobtrusive observation of participants when choosing drinking milk in a retail outlet, (2) followed by a brief questionnaire-based interview focusing on the participant’s choice tactics and experience with this type of purchase, and (3) concluding with participants filling out a questionnaire capturing their involvement in buying organic food.

The advantage of the unobtrusive observation method is that it makes it possible to register participants’ behavior without influencing it (e.g., Hoyer, 1984; Zikmund, 2000).

Other important advantages are independence of participants’ ability to remember and report their behavior and/or to correctly understand a question. Especially, due to the automaticity of frequently repeated acts such as the ones studied here, most consumers may simply not be aware of exactly how much information they search or how long time

they use for making the choice (only that it is brief!). Important disadvantages of the observation method are that it is demanding in terms of time and meticulousness (Zikmund, 2000) and that it is not possible to observe psychological states in the participants, such as beliefs, attitudes, preferences and involvement. It is also not possible to observe whether the participant is shopping for him or herself or for somebody else.

For these reasons, the observations were supplemented by personal interviews, carried out right after the observation (Hoyer, 1984; Pieters, 1988). It is assumed that immediately after the choice the reason(s) for making the choice is (are) still fresh in memory and it is therefore possible for the participant to report it with a high level of precision. Hence, the objective of the interview is to provide insight into the reasons and motives behind the participant's choice (Hoyer 1984).

The participant's involvement in buying organic food (the specific "green" issue) is measured by means of Zaichkowsky's (1985) thoroughly validated involvement scale (e.g., Bruner, Hensel, & James, 2005; Foxall & Pallister, 1998).

Data collection

Observations and interviews were carried out in May 2007 in a well-assorted supermarket (SM) and a discount store (DS) in the second largest city of Denmark, Aarhus (population \approx 300,000). The two locations were selected in order to reach a broad sample of the general population and to control whether the breadth of the assortment in the store (which differs between the two store types) makes any difference. The assortment of the SM/DS contained 6/4 different brands of drinking milk of which 2/1 were organic milk.

Observations and interviews were made during two whole days in both stores in order to correct for possible effects of time of day or day of the week.

An observation form was designed for each shop designed so as to make it quick and easy for the observer to register observations regarding information search and search time in an objective and unequivocal way. The observer also registered the observee's gender and approximate age.

A pilot and training session was carried out in the SM before the actual data collection. In addition, the questionnaires were pre-tested with five individuals and slightly adjusted based on their reactions.

Participants in the study were consumers buying drinking milk in the two stores at the time of the study. The data collection was carried out by the second and third author. One of the researchers discretely and unobtrusively observed consumers at the milk cold counter and filled out the observation form and the other contacted participants after they had put drinking milk in their shopping carts and left the counter, asked them to participate in a brief interview, and carried out the interview (assisted by the other researcher). At the conclusion of the interview, the participant was asked to fill out a one-page questionnaire with the involvement scale. The next observation started as soon as the former interview ended.

All shoppers at the store's milk cold counter at the time of the study and when no other shopper was being interviewed were observed and interviewed. In total, 185 consumers were observed, 98 in the SM and 87 in the DS. Thirty shoppers refused to participate in the interview and of those agreeing to the interview, two refused to fill out the

involvement questionnaire and another five involvement responses were rejected because the response pattern revealed that they had answered the scales mechanically without noticing the reversed poles of some scales. Hence, the response rate for the main interview/the involvement interview was 84/80%. Lack of time was the primary reason for refusing to participate. No incentives for participation were offered. The gender distribution did not differ between the rejecters and those agreeing to participate (chi-square = 2.831, $p = .09$). Slightly more observees in the SM than in the DS refused to participate in the interview, but the difference was not significant (chi-square = 2.625, $p = .11$). The two groups also did not differ on any of the observations reported in Table 1 (t 's < 1.5 , p 's $> .15$).

The participants were 62/38% female/male. Their age distribution was: 20-24 y.o.: 13.6%, 25-34 y.o.: 25.3%, 35-44 y.o.: 15.6%, 45-54 y.o.: 24%, 55-64 y.o.: 12.3%, 65-90 y.o.: 9.1%. They had bought drinking milk from 1 to 75 years ($M = 22.3$ years). The number of previously bought drinking milk brands varied from 1 to 23 ($M = 4.1$).

The questionnaire

The interview started with an open question regarding the reason(s) for choosing the chosen brand of drinking milk. Then came questions about choice tactics, experience with the product class and the brand, brand loyalty, perceived influence from factors inside and outside the shop and, finally, demographic questions.

Involvement was measured on a 7-point ten items semantic differential scale translated and adapted from Zaichkowsky (1985). After an introduction, participants were requested to fill out 10 semantic differentials with regard to the sentence: "I find the *purchase* of

organic food...” (emphasis in the questionnaire). The 10 differentials included pairs such as important-unimportant, involving-uninvolving, and boring-interesting. In order to avoid mechanical scale use, half of the differentials had the positive pole to the right and the other half to the left. For the present purpose, the average score on the ten items (after reversing the scales so that a higher number means higher involvement) was used as an indicator of the participant’s involvement in buying organic food ($M = 4.49$, $s.d. = 1.56$, Cronbach’s $\alpha = .95$).

Results

Validity check

Thirty-five percent of the observed shoppers chose organic milk. Consistent with the assumption that consumers buying “green” everyday products are more involved in the buying decision than consumers buying “conventional” products, shoppers choosing organic milk were significantly more involved in buying organic food than shoppers choosing conventional milk ($M_o = 5.41$, $M_c = 3.98$; $p < .001$). Hence, it is highly unlikely that the observed choices between organic and conventional milk were made randomly or that the choice of organic milk is unrelated to the shopper’s involvement in buying organic food.

Information search and time-use

Table 1 reports the most important results regarding the amount of information search and the time spend for making the choice separately for consumers who chose organic and conventional milk. Eight consumers who bought both types of milk are included among the organic consumers. Participants in the two retail stores did not differ

significantly at the Bonferroni-corrected .01 significance level on any of the variables reported in Table 1 ($t[\text{examined}] = 1.601, p = .11$; $t[\text{picked}] = 1.136, p = .26$; $t[\text{within}] = 1.992, p = .05$; $t[\text{between}] = 0.427, p = .67$; $t[\text{time}] = 1.470, p = .14$). Hence, the observations were pooled.

None of the differences appearing in Table 1 between consumers choosing organic and conventional milk were significant at the Bonferroni-corrected .01 significance level ($t[\text{examined}] = 0.427, p = .44$; $t[\text{picked}] = 2.276, p = .03$; $t[\text{within}] = .0432, p = .67$; $t[\text{between}] = 0.755, p = .45$; $t[\text{time}] = 1.333, p = .18$). Few consumers in both the conventional and the organic group inspected more than one milk carton before making the choice and even fewer made any comparisons, within or between brands. As a consequence, the whole choice process was very fast, only about 5 seconds on average in both groups.

Insert Table 1 around here

These results are consistent with findings regarding the choice of other everyday products, such as detergents (Hoyer, 1984), toothpaste, margarine, coffee, and cereals (Dickson & Sawyer, 1990), and with the assumption that consumers are little involved in the choice of drinking milk. However, they are *inconsistent* with the assumption that a “green” attribute increases the consumer’s involvement in the choice of such a product and with hypothesis H1. The questionnaire study revealed that, when intercepted for this study, the “organic” shoppers had bought the chosen organic brand for 6.5 years, on average. Hence, the average organic shopper had considerable routine in making this choice.

Choice tactics

Responses to the open-ended choice tactics question were classified into more abstract categories independently by each of the two last authors. Following Hoyer (1984), we used a separate category for multiple statements. Single statement responses were classified into the four categories proposed by Hoyer (1984) (price tactics, affect tactics, performance tactics, and normative tactics) if it was meaningful. Responses that were still non-classified after this step were then studied in order to ascertain whether they contained additional meaningful choice tactics categories. This led to the identification of a habit tactics category. The two judges agreed about the classification of individual responses in practically all cases. The few cases of disagreement were settled by discussion among the judges. Table 2 reports the classification and distribution of the responses to the open-ended choice tactics question.

As shown in Table 2, 88% of the 155 shoppers that agreed to participate in the interview gave only a single reason for their choice, such as “because it’s the cheapest” or “because it’s organic.” Sixteen participants mentioned two reasons, such as “it’s organic and I like the taste,” and two participants gave three reasons. These findings resemble what is reported in previous research (e.g., Hoyer, 1984) and are usually assumed to reflect that consumers use simple choice tactics rather than an extensive and systematic problem solving process in cases such as these.

Insert Table 2 around here

Consistent with hypothesis H2, the choice tactics differ between organic and conventional consumers. Obviously, the biggest difference is with regard to using organic

as a choice criterion, which 54% of the organic consumers (35% as the only reason) and only one of the conventional consumers did.¹ At a higher level of abstraction, this also means that organic consumers were significantly more likely to use a simple performance tactic than conventional consumers (54 vs. 21%, not including subjects giving multiple answers, chi-square = 17.442, $p < .001$). On the other hand, organic consumers were significantly less likely to mention the price as the reasons for the choice (4 vs. 27%, chi-square = 12.270, $p < .001$). Nine percent said that they had developed a habit of buying organic milk. The proportion using habit tactics did not differ significantly between conventional and organic shoppers (chi-square = .647, $p = .42$).

What is perhaps less obvious is that organic consumers were significantly more likely than conventional to give multiple reasons for the choice (20 vs. 8%, chi-square = 5.071, $p < .05$). These findings suggest that consumers that choose the “green” alternative differ from “conventional” consumers not only with regard to the specific choice heuristics employed, but also with regard to how many aspects of the options they consider when making the choice. Hence, it seems that consumers choosing the “green” alternative do actually deliberate more when making the choice, as suggested by hypothesis H1, but the amount of deliberation is still very limited. The facts that the shoppers know the product very well and that the choice entails very little risk seems to be considerably more important for the type of choice process implemented than the presence of a “green” attribute.

¹ This one conventional consumer mentioned non-organic as one of two reasons for choosing a particular brand.

Explaining choice tactics

A series of explorative stepwise discriminant analyses were performed in order to obtain a deeper knowledge of how consumers using different choice tactics differ and a sense of the reason(s) why they use different choice tactics, drawing on the observations and individual background characteristics collected by means of the questionnaire. The choice tactics groups are the five aggregate groups identified in Table 2, with two exceptions. First, the performance tactics and the affect tactics groups were merged (cf., Hoyer, 1984). Second, because the objective of this study is to investigate the impacts on choices of adding a “green” attribute to a product, the performance-and-affect tactics group was divided into those using organic as a choice criterion and the rest. Further, for this purpose ten subjects quoting organic as one of multiple reasons for making the choice were included in the “organic tactics” group.

In the first step, each of the following five groups of variables’ ability to discriminate between choice tactics groups was tested separately: (1) decision effort variables, (2) demographic variables, (3) experience variables, (4) attitudinal variables, and (5) perceived influence by marketing stimuli variables. Next, the “surviving” variables from each of these analyses were pooled and a final stepwise discriminant analysis was carried out. We summarize the results of these analyses before presenting an integrated view of how the variables discriminate between choice tactics groups in Table 3.

According to the first set of discriminant analyses, information search effort and time variables (Table 1) do not discriminate between individuals using different choice tactics ($F(4, 129)$ ’s < 1.68 , p ’s $> .15$). Age is the only demographic variable that discriminates between individuals using different choice tactics ($F(4, 129) = 6.483$, $p < .001$). None of

the other demographic variables (gender, education, household size, children in the household) seems to make any difference ($F(4, 129)'s < 1.04, p's > .39$). Except one (number of different brands of milk ever bought), all of the registered experience variables (product category experience, brand loyalty, brand experience, and past behavior w.r.t. organic milk) discriminate between the groups, but when the two mentioned last are entered into the equation, none of the others are significant ($F(4, 129)'s < 2.84, p's > .05$). Past behavior w.r.t. organic milk is the strongest discriminator among these variables ($F(4, 129) = 20.765, p < .001$) and brand experience is second ($F(4, 129) = 5.230, p = .001$). Both brand preference ($F(4, 123) = 3.944, p < .01$) and involvement in buying organic food ($F(4, 123) = 5.094, p = .001$) discriminate significantly between the groups, also when both are controlled. The final analysis in the first step revealed that, among four marketing communication vehicles covered by the questionnaire (ads, packaging information, special offer tags, and price tags), only the attention paid to the last two (i.e., price information) discriminates significantly between groups and when the last one is controlled ($F(4, 129) = 36.591, p < .001$), none of the others discriminates significantly ($F(4, 129)'s < 1.12, p's > .05$). The suppression of the effect of attention to special offer tags suggests that consumers perceive them as a special case of price tags. Hence, we will not discuss special offer tags separately any further.

A total of nine discriminating variables were identified in this first step. When controlling for other variables in the same category, the influence of three variables was suppressed while six remained significant. The hierarchical relationship between the discriminating variables is further emphasized when the six “surviving” variables are included in the final discriminant analysis. Under these conditions, only past behavior with regard to organic milk and attention to price signs are significant, suppressing the influence of the

other four variables. Suppression does not mean that the suppressed discriminators are necessarily unimportant, but their influence is indirect and mediated through one or more of the “surviving” variables (cf., Baron & Kenny, 1986).

That the two latter variables discriminate between the choice tactics groups is perhaps too self-evident to be really informative. Hence, in order to obtain a more informative, and complete, picture of the reasons why consumers use different choice tactics, Table 3 reports univariate analyses of all nine discriminating variables while also indicating their hierarchical structure.

Not surprising, the significant effect of attention to price tags is due to those using price heuristics paying more attention than the other four groups (Table 3). The other four groups do not differ significantly from each other on this variable (p 's > .13). It is less obvious that the significant effect of age is due to those using price heuristics being substantially younger than the other groups. The other four groups do not differ significantly from one another with regard to age (p 's > .65). The effect of length of experience at both the product category and the brand level follows the same pattern as age, those using price heuristics having significantly shorter experience at both levels and none of the other groups differing significantly from one another (p 's > .41). It seems that, for a product as common as drinking milk, the age variable is sufficient to capture the length of product class and brand experience.

It is also not very surprising that the significant effect of past behavior regarding buying organic milk is due to those using organic heuristics having performed this behavior more consistently in the past than the other four groups. The other groups do not differ significantly from one another on this variable (p 's > .28). Past behavior is sometimes

assumed to reflect habit, especially if the behavior is performed frequently and in a stable context (e.g., Ouellette & Wood, 1998). Because past behavior is strongly correlated with involvement in buying organic food ($r = .60$), it may actually reflect consumer loyalty rather than habit in this case. Be that as it may, this finding suggests that, as consumers repeatedly buy organic milk, they learn a useful choice heuristic, which helps them to reinforce that behavior pattern.

Insert Table 3 around here

Reflecting their strong correlation, the effect of involvement in buying organic food follows the exact same pattern as that of past behavior regarding organic milk. Those using organic heuristics are more involved in buying organic food than the other four groups. The other groups do not differ significantly from each other on this variable (p 's $> .83$).

The significant effect of brand preference is due to those using organic heuristics having significantly stronger brand preferences than those using price heuristics ($p < .05$). The other three groups occupy an intermediate position on this variable. None of the two mentioned groups differ significantly from the other three groups and the other three groups do not differ significantly from each other on this variable (p 's $> .28$). With regard to brand loyalty, the pattern is similar, except that for this variable the price heuristics group is significantly different from both the habit heuristics group ($p < .05$) and the organics group ($p < .01$). Again, no other group differences were significant (p 's $> .11$).

In sum, two groups come out of the discriminant analysis with a more clearly distinct profile than the others: the price tactics group and the organic tactics group. The price

tactics group is younger and has shorter experience with the product at both the product class and the brand level. Subjects in this group also have the weakest brand preferences, are the least brand loyal customers and have bought organic milk least in the past.

The fact that those using price heuristics are considerably younger than the other groups may have to do with young consumers (especially students) often living on a tight budget. Other factors that may play a role for the specific case are that the very young consumers are less likely to have the responsibility for a household and for children, factors that may increase normative influences as well as quality consciousness in older consumers. It seems logical that the younger age groups and those with shorter product class and brand experience will be under-represented in the habit tactics group.

The organic tactics group stands out with regard to the organic-related descriptors only. They have a substantially stronger history of buying organic milk than the other groups and they are also significantly more involved in buying organic food than the other groups. Besides this, they do not differ from the other groups, except for the price tactics group.

The three remaining groups (performance/affect tactics, normative tactics, and habit tactics) are not significantly different from one another on any of the included variables.

Discussion

It is an obvious limitation of the data set that it did not make it possible to discriminate between three of the choice tactics groups. However, for the purpose of this paper, which is to investigate the impact on consumers' choice tactics of adding a "green" attribute to a

common repeat purchase product, this is not a serious limitation, as long as it is possible to discriminate in a meaningful way between the consumers that are influenced by the “green” attribute and those that are not. The data obviously allow such meaningful discrimination.

The study confirms the previous finding that consumers use very little time and effort on decision-making in the buying situation when buying a common repeat purchase product. Further, it extends this finding to cases where the product has a “green” attribute. The “green” attribute links the product to an issue in which a segment of consumers is highly involved. Therefore, it seems likely that it will also increase consumer involvement in the decision-making when a product alternative has a “green” attribute. The observation data suggest that, if this is the case, it is at least not reflected in the amount of time and effort spent on decision-making in the store. The interviewed “organic” shoppers had considerable routine in choosing this product, which meant that they were able to make the decision as efficiently as the conventional shoppers.

However, the analysis of the reasons consumer give for their choices suggests that, when a common everyday product has a “green” attribute, starting to buy it is hardly the haphazard or random a process that is generally assumed for common everyday products (e.g., Hoyer, 1984). “Green” consumers are significantly more likely to cite multiple reasons for their choice, which suggests more (but perhaps not much more) deliberation in their choice process, at least in the past. More importantly, the hierarchical structure of the discriminating variables suggests that a high enduring involvement with the “green” issue was a basic reason why consumers started to buy this particular “green” product in the first place. This interpretation is consistent with other studies of why individuals start

performing a new environment-friendly behavior (e.g., Dahlstrand & Biel, 1997; Stern, Dietz, Kalof, & Guagnano, 1995). Because they are motivated as everybody else to minimize time and effort at the point-of-purchase (Hoyer, 1984; Payne, Bettman, & Johnson, 1990), “green” consumers learn how to easily identify the “green” product as well as a simple heuristic that allows them to make a satisfactory choice with little effort.

Because of this learning process, the relationship between enduring involvement in the purchase of the studied “green” product and situational involvement in the choice, as reflected in the time and effort spent on choosing the product in the store, is actually slightly negative although only significant for two of the five descriptors in Table 1 ($r[\text{time}] = -.16$, $r[\text{examined}] = -.17$, $p's < .05$). One may speculate that these negative correlations reflect that the highly involved consumers experience less ambivalence when making this kind of choices and therefore rely on the adopted choice heuristic with greater confidence.

This study complements previous research on consumer decision-making with regard to common everyday products. We find that consumers do not use longer time or more effort when choosing a “green” than a conventional everyday product. Consumers are also as likely to use a habit-based heuristic for choosing a “green” as a conventional product. Still, consumer choices are influenced by their involvement in the “green” issue, but the influence is primarily mediated through the learning of a performance-based choice heuristic based on the “green” attribute as the performance criterion. By employing this choice heuristic, consumers make decisions about “green” everyday products as efficiently as they do about conventional products.

References

- Alden, D. L., Hoyer, W. D., & Wechasara, G. (1989). Choice strategies and involvement - a cross-cultural analysis. *Advances in Consumer Research*, 16, 119-126.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.
- Biisgård, P. (2006). Rift om økomælken. *Mejeri*, 3.
- Bruner, G. C., Hensel, P. J., & James, K. E. (2005). *Marketing scales handbook. A compilation of multi-item measures for consumer behaviour and advertising. Volume IV*. Chicago IL: Thomson South-Western. American Marketing Association.
- Chen, S., & Chaiken, S. (1999). The heuristic-systematic model in its broader context. In S. Chaiken & Y. Trope (Eds.), *Dual-process theories in social psychology* (pp. 73-96): Guilford Press.
- d'Astous, A., Bensouda, I., & Guindon, J. (1989). A re-examination of consumer decision-making for a repeat purchase product - Variations in product importance and purchase frequency. *Advances in Consumer Research*, 16, 433-438.
- Dahlstrand, U., & Biel, A. (1997). Pro-environmental habits: Propensity levels in behavioral change. *Journal of Applied Social Psychology*, 27, 588-602.
- de Ferran, F., & Grunert, K. G. (2007). French fair trade coffee buyers' purchasing motives: An exploratory study using means-end chains analysis. *Food Quality and Preference*, 18, 218-229.
- Dickson, P. R., & Sawyer, A. G. (1990). The price knowledge and search of supermarket shoppers. *Journal of Marketing*, 54(3), 42-53.
- Dunlap, R. E. (2002). An enduring concern. *Public Perspective*(September/October), 10-14.
- Fazio, R. H., & Towles-Schwen, T. (1999). The MODE model of attitude-behavior processes. In S. Chaiken & Y. Trope (Eds.), *Dual-process theories in social psychology* (pp. 97-116): Guilford Press.
- Foxall, G. R., & Pallister, J. G. (1998). Measuring purchase decision involvement for financial services: Comparison of the Zaichkowsky and Mittal scales. *International Journal of Bank Marketing*, 16(5), 180-194.
- Hoyer, W. D. (1984). An examination of consumer decision making for a common repeat purchase. *Journal of Consumer Research*, 11, 822-829.
- Kleiser, S. B., & Wagner, J. A. (1999). Understanding the pioneering advantage from the decision maker's perspective: The case of product involvement and the status quo bias. In E. J. Arnould & L. M. Scott (Eds.), *Advances in Consumer Research Volume 26* (pp. 593-597). Provo, UT: Association for Consumer Research.
- Macdonald, E. K., & Sharp, B. M. (2000). Brand awareness effects on consumer decision making for a common, repeat purchase product: A replication. *Journal of Business Research*, 48(1), 5-15.
- Manzo, L. C., & Weinstein, N. D. (1987). Behavioral commitment to environmental protection. A study of active and nonactive members of the Sierra Club. *Environment and Behavior*, 19(1), 6.

- Ouellette, J. A., & Wood, W. (1998). Habit and intention in everyday life: The multiple processes by which past behavior predicts future behavior. *Psychological Bulletin*, *124*, 54-74.
- Payne, J. W., Bettman, J. R., & Johnson, E. J. (1990). The adaptive decision maker: Effort and accuracy in choice. In R. M. Hogarth (Ed.), *Insights in decision making: A tribute to Hillel J. Einhorn* (pp. 129-153). Chicago: University of Chicago Press.
- Petty, R. E., Cacioppo, J. T., & Goldman, R. (1981). Personal involvement as a determinant of argument-based persuasion. *Journal of Personality and Social Psychology*, *41*(5), 847-855.
- Pieters, R. G. M. (1988). Attitude-behavior relationships. In W. F. v. Raaij, G. M. v. Veldhoven & K. E. Wärneryd (Eds.), *Handbook of Economic Psychology* (pp. 144-204). Dordrecht: Kluwer Academic Publisher.
- Richins, M. L., Bloch, P. H., & McQuarrie, E. F. (1992). How enduring and situational involvement combine to create involvement responses. *Journal of Consumer Psychology*, *1*, 143-154.
- Schifferstein, H. N. J., & Oude Ophuis, P. A. M. (1998). Health-related determinants of organic food consumption in the Netherlands. *Food Quality and Preference*, *9*, 119-133.
- Stern, P. C., Dietz, T., Kalof, L., & Guagnano, G. (1995). Values, beliefs, and proenvironmental action: Attitude formation toward emergent attitude objects. *Journal of Applied Social Psychology*, *25*, 1611-1636.
- Thøgersen, J. (2002). Promoting green consumer behavior with eco-labels. In T. Dietz & P. Stern (Eds.), *New tools for environmental protection: Education, information, and voluntary measures* (pp. 83-104). Washington DC: National Academy Press.
- Vining, J., & Ebreo, A. (1990). What makes a recycler? A comparison of recyclers and nonrecyclers. *Environment and Behavior*, *22*(1), 55-73.
- Zaichkowsky, J. L. (1985). Measuring the involvement construct. *Journal of Consumer Research*, *12*(December), 341-352.
- Zanoli, R., & Naspetti, S. (2002). Consumer motivations in the purchase of organic food. A means-end approach. *British Food Journal*, *104*(8), 643-653.
- Zikmund, W. G. (2000). *Business research methods (6th edition)*: Harcourt College Publishers.

Table 1: Summary of search data separately for “organic” and “conventional” consumers¹

	Means	Frequency distribution proportions				
		0	1	2	3	4
Number of milk cartons examined (organic)	1.22	0.00	0.81	0.17	0.00	0.02
Number of milk cartons examined (conventional)	1.21	0.00	0.83	0.14	0.03	0.00
Number of milk cartons picked up (organic)	1.13	0.00	0.88	0.13	0.00	0.00
Number of milk cartons picked up (conventional)	1.02	0.00	0.98	0.03	0.00	0.00
Number of within-brand comparisons (organic)	0.11	0.89	0.11	0.00	0.00	0.00
Number of within-brand comparisons (conventional)	0.11	0.90	0.09	0.01	0.00	0.00
Number of between-brand comparisons (organic)	0.11	0.91	0.08	0.02	0.00	0.00
Number of between-brand comparisons (conventional)	0.10	0.90	0.10	0.00	0.00	0.00
		Frequency distribution seconds				
		0-10	11-20	21-30	31-40	41-
Total time in seconds (organic)	4.45	0.84	0.14	0.02	0.00	0.00
Total time in seconds (conventional)	5.09	0.84	0.14	0.02	0.00	0.01

¹ N (organic) = 64, N (conventional) = 121.

Table 2: Responses to open-ended choice tactics question

Response	Total		Non-organic consumers, N = 101	Organic consumers, N = 54
	Total number of consumers	Percentage	Percentage	Percentage
Price tactics	29	18.8	26.7	3.7
Cheapest	21	13.6	7.9	0.0
The price	8	5.2	18.8	3.7
Affect tactics	10	7.8	7.9	7.4
Avoids Arla (biggest dairy)	8	5.2	5.9	3.7
Like the brand	2	1.3	2.0	0.0
Small dairy	1	0.7	0.0	1.9
Like it	1	0.7	0.0	1.9
Performance tactics	50	32.5	20.8	53.7
Organic	19	12.3	0.0	35.2
Taste	10	6.5	6.9	5.6
Low fat	8	5.2	6.9	1.9
Keeps fresh longer	6	3.9	3.0	5.6
Health	4	2.6	3.0	1.9
Package	3	2.0	1.0	3.7
Normative tactics	13	8.4	11.9	1.9
For family	7	4.6	5.9	1.9
For girlfriend	3	2.0	3.0	0.0
For others	2	1.3	2.0	0.0
Used to from home	1	0.7	1.0	0.0
Habit tactics	22	14.3	15.8	11.1
Habit	21	13.6	15.8	9.3
Bought many years	1	0.7	0.0	1.9
Nonclassified	10	6.5	8.9	1.9
Multiple statements	19	11.7	7.9	20.4
Organic one of them	11	6.5	0.9	18.5
Total	155	100.0	100.0	100.0

Table 3: Univariate tests for discriminating variables

Variable	F (4, 123)	Means				
		Price	Perform- ance/affect	Norm- ative	Habit	Organic
Attention to price signs (1 = little, 3 = big)	31.199	2.73	1.30	1.36	1.32	1.31
Age (years)	7.206	29.00	44.90	47.18	40.77	46.83
Length of brand experience (years)	5.339	2.01	7.18	7.50	7.82	6.72
Length of category experience (years)	5.473	12.60	24.93	28.08	19.09	26.93
Brand loyalty (1 = always, 5 = never)	5.145	2.59	2.05	2.08	1.82	1.69
Brand preference (1 = very strong, 5 = very weak)	3.944	3.42	2.48	2.64	2.59	2.38
Past behavior, organic (1 = always, 5 = never)	19.241	3.73	3.23	3.45	3.18	1.28
Involvement, organic (1 = no involvement, 7 = high involvement)	5.094	4.22	4.43	4.15	3.96	5.59