



Referent product information from a credible source: How front line employees can stimulate acceptance of incrementally new food products



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ABSTRACT

Generating consumer acceptance for incrementally new food products remains a challenge. Drawing on analogical learning theory, we explore the combined effect of providing information about the new product's closest referent ('the product is like...') and the instrumental value of store's frontline employees (FLEs) as credible source of this information on a new food product's acceptance. Using the context of aquaculture, two consecutive experimental studies with a joint data collection have been conducted among UK consumers. Study 1 focuses on the adoption of fillets of an unfamiliar fish species with the FLE communicating newness, or newness including closest referent information. Results confirm that information provided by the FLE has a positive effect on consumer attitude and willingness to buy the new product, but a similar rather than stronger effect is found for the condition including closest referent information. Using a subsample of the data of Study 1, Study 2 explores the underlying learning mechanisms involved. The findings show that the influence of the FLE's information on the consumer's attitude towards the new product is positively mediated by the consumer's attitude towards FLE's advice. Additionally, the positive indirect effect of the FLE's information regarding closest referent on willingness to buy is conditional on the consumer's (dis)liking of the referent product and his/her need to taste the new product first. These findings confirm that offering information on closest referent by FLEs is powerful and can be a useful variable in consumer segmentation.

1. Introduction

Compared to other product categories, food transcends to intimate and health-related needs triggering cautiousness among consumers when potentially extending their product repertoire (Banović, Krystallis, Guerrero, & Reinders, 2016; Ronteltap, Van Trijp, Renes, & Frewer, 2007). This explains why many new food products fail in the market place (Castellion & Markham, 2013; Dijksterhuis, 2015). Particularly, radically new food products, like insects for instance, are susceptible to negative effects (Tan, Tibboel, & Stieger, 2017). These radically new food products often are incongruent, i.e., they deviate from many consumers' mental representations or schemas (Noseworthy & Trudel, 2011). However, incrementally new products, like for example a slightly changed flavor or product form of a food product, also frequently struggle to gain consumer acceptance (Banović, Fontes, Barreira, & Grunert, 2012; Fenko, Backhaus, & van Hoof, 2015; Giacalone et al., 2015). Although incrementally new products are congruent or only moderately incongruent with consumers' product

mental representations, consumers may still find it hard to make sense of these products and, as a result, consumers perceive increased risks in buying and consuming them. This may seriously hamper the incrementally new products' acceptance (Heidenreich, Kraemer, & Handrich, 2016) and make launching such new products costly for both food producers and retailers (Bstieler, 2012; Fuller, 2016). Better understanding how to deal with the challenge of increasing acceptance of incrementally new products, and preventing providers from underestimating the task ahead, remains extremely important.

Lack of consumer acceptance of incrementally new food products can be attributed to two potential behavioral reasons. First, problems may arise from a consumer's inability to effectively integrate new information on a product's expected benefits (Banović, Grunert, Barreira, & Fontes, 2010). If expected benefits are not fully integrated consumers question the value of the incrementally new product, which in turn, causes negative product evaluations (Noseworthy & Trudel, 2011). Research shows that consumers find it hard to evaluate a new product without the right context of familiar products or a close referent

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(Banović et al., 2010). Presence of a close referent allows consumers to use analog learning, which refers to the transferring of common attributes from the known to the new, unfamiliar product (Gentner, 1989; Holyoak, 2012). In other words, if an incremental new food product is compared to previous examples of similar food products and their attributes are congruent, this will lead consumers to have more positive and more detailed product evaluations as their expectations will be supported by the existence of similarity (Park, Kim, & Kim, 2002; Gentner & Holyoak, 1997). Of course, a positive outcome will only occur if the initial consumer's attitude towards the referent was a positive one.

A second reason for a lack of acceptance of incrementally new food products is that consumers aim to reduce the risks involved in trial and adoption of new products (Ma, Yang, & Murali, 2014). Consequently, consumers search for cues from the environment, such as salespeople that are regarded as credible sources, to assess the suitability of new alternatives (Isaac & Grayson, 2017; Pornpitakpan, 2004). Bauer (1967), for example, already discussed the role of personal references as sources of influence that assist consumers with dealing with purchase risks. In specialty stores, but potentially also in supermarkets (e.g., think of in-store promotions), frontline employees (FLEs) represent important, competent and thus credible sources of information (Brexendorf, Mühlmeier, Tomczak, & Eisend, 2010; Larivière et al., 2017). Thus, the information FLEs provide may be highly effective in promoting trial, and it may even mitigate many consumers' need to sample the new product before buying it.

While the role of communicating information regarding a new product's closest referent has been studied and found to have positive effects on consumer perceptions and preferences (e.g., Tuorila, Meiselman, Cardello, & Lesherc, 1998; Grunert, Bech-Larsen, Lähteenmäki, Ueland, & Åström, 2004), the role of FLEs as credible sources in stimulating the adoption of new products has not received much attention (Söderlund, 2017). The current research's objective is to address this gap in the literature and study the instrumental value of information of a product's closest referent ('the product is like...') provided by a FLE (credible source) in stimulating the acceptance of an incrementally new food products. We expect that, if the information regarding a new product's closest referent comes from a credible source, such as a FLE, this will foster trial and gives way to a higher rate of adoption of the new product.

We present the results of two consecutive studies using a joint data collection, i.e. experiment among UK consumers. Study 1 focuses on the effect of information provided by a FLE about an incremental new product. We distinguish between two types of information: a FLE communicating product newness, and a FLE communicating product newness and information about the new product's closest referent. In other words, we study newness in the sense of incrementally new products to create attention towards the product; we do not study different levels of newness, i.e. radical vs incremental. We add information of the product's closest referent to provide context and stimulate analog learning and thus knowledge integration. In Study 2, we use attitudinal information collected from the same sample as Study 1 to examine the underlying analogical learning mechanism of consumers' attitude formation. Specifically, we focus on the role of consumers' attitude towards the FLE's advice as potential *mediator* of the new information received and the attitude they form towards the new product (and their subsequent purchase intent). We also test whether the effects are *conditional* upon (i) consumers' need to first taste the new product before buying, and (ii) (dis)liking of the referent product presented as analog. We expect that, while need to sample first may decrease positive effects of analog learning, disliking probably can completely shut down these effects.

The research context selected are aquaculture products. Aquaculture products are useful for our research because 'farmed' fish products are both congruent ('it is fish'), but new to consumer (since often unfamiliar species are involved) (Banović et al., 2016). More

importantly, aquaculture products could play a crucial role in future food consumption because they are an alternative and healthy source of protein that can help preserve marine resources for the future generations. Therefore, the EU's Blue Growth Strategy and reformed Common Fisheries Policy promote aquaculture as a sector that could boost economic growth and actively stimulate development and introduction of new aquaculture products (EC, 2015). Thus, the aquaculture setting represents a suitable context and fertile area for our study.

2. Theoretical background

2.1. Providing referent product information

Prior research has suggested that the lack of customer adoption of new products can be overcome by communicating positive characteristics of the food (e.g., taste) in order to inform consumers and stimulate their feelings of liking (Grunert et al., 2004; Cardello, Maller, Masor, Dubose, & Edelman, 1985). Providing information that is easily inferable for consumers by offering the right analog has been identified as being instrumental to this challenge (Tuorila et al., 1998). By offering information about an incremental new product's closest referent ('the product is like...'), a food provider induces the schema of a similar, familiar product – i.e., analog – which subsequently allows for an easier assimilation of the new product's information, by creating a more general schema that encompasses both products' schemas (Holyoak, 2012). This makes the new product more familiar, which fosters its trial and adoption.

The process of creating a similarity with a new product's referent involves consumer analogical learning rather than categorization, because no potential incongruence needs to be overcome between the new product and activated schema (Gregan-Paxton, Hibbard, Brunel, & Azar, 2002). Analogies ('the product is like...') differ from categorization ('the product is...') in the nature and treatment of attributes and relations in the process of mapping and transferring knowledge (Gregan-Paxton & Moreau, 2003). While categorization involves making a complete match and allows for a full transfer of attributes and associations of the category to the target, analogies require only a certain subset of relations associated with the category to be mapped and transferred. Therefore, when confronted with a new product, the schema of the analog and the 'quality' of its induced product schema will be predictive of subsequent knowledge transfer performance. More precisely, knowledge transfer performance is conditional on the attributed quality aspects to the referent product, such as taste. For instance, if someone likes the referent product or evaluates the product quality favorably the analogical learning will be successful. If the person dislikes the referent this transfer will obviously have negative consequences for the new option (Fenko et al., 2015).

Because perceived products' similarities enable consumers to organize products into familiar categories, the analogy between two specific products can plant a "seed" for learning a new overall category or schema that incorporates both products (Gentner & Holyoak, 1997). If the analog schema is induced, a consumer is more likely to make the right associations and store them correctly. Storing the information at more detailed level reduces uncertainty through transfer of useful analog information (e.g., 'It is the same kind of product as...'). Analog learning clearly is more potent than simple generic category information ('it is a fish') because the referent immediately helps the consumer to determine the new product's specific *subcategory* (e.g., 'it is a meaty fish'). This better knowledge integration will result in a more confident consumer attitude, which will increase the consumer's willingness to try and buy the new product, provided the person likes the referent.

2.2. FLEs as credible source

Referent product information may be offered using impersonal messages (e.g., Nekmat, Gower, Zhou, & Metzger, 2019), but can of

course also be delivered in person. Relationship marketing (Morgan & Hunt, 1994; Sirdeshmukh, Singh, & Sabol, 2002) has emphasized the importance of FLEs as informants. FLEs represent an important source of information for consumers. Research shows that their mere presence can affect key outcomes, such as customer satisfaction (Söderlund, 2017). Particularly consumers who patronage specialty stores tend to trust FLEs' advice and enjoy a higher perceived relational value with the store and its products (Sirdeshmukh et al., 2002). However, also less knowledgeable and loyal customers may trust specialty store FLEs. Support comes from Doney and Cannon (1997), who argued that if customers have limited knowledge of a sales person their trust in the firm is likely to influence their trust in the sales person through a process of affect transfer; a consumer's store trust radiates, and offers extra credibility to the FLEs of that store. However, the intent or professional motive of the FLE will matter too. Research shows that FLEs with more altruistic motives ('Helping the customer...') enjoy enhanced credibility and trustworthiness among the public (Sallot, 2002).

Prior studies indicate that a credible source may be particularly persuasive for consumers in their consideration phase of buying a new product. At this stage, consumers generally have not yet formed their opinions about the product at hand, and thus can be influenced easily (Harris, Davies, & Baron, 1997; Isaac & Grayson, 2017; Pornpitakpan, 2004; Ratneshwar & Chaiken, 1991). Previous research has shown that a highly credible source (e.g., speaker) can enhance message-relevant thinking and message-relevant thoughts especially for individuals who do not inspect message content or are uninvolved with the content (Heesacker, Petty, & Cacioppo, 1983). As a result, a positive attitude towards the information received from a FLE about the new product will be highly effective in stimulating consumers' attitude towards the new product and increasing their willingness to try it. The personal approach of the FLE will add to the persuasiveness of the information because source credibility is higher for personal than impersonal sources (Nekmat et al., 2019).

2.3. Need to sample first

Sampling or tasting represent another, convincing way to convey a new food's product information to consumers. Research shows that sensory expectations of novel foods differ greatly from the actual taste of the food, and differ between people who have and have not tasted them before (Tan et al., 2017). Particularly, beliefs about a new food's quality are informed by product-related associations, and can be conditioned by providing direct, personal experience (Grunert et al., 2004). Research confirms important positive effects of this sensory approach (Lawson, McGuinness, & Esslemont, 1990) and trial (i.e., taste first) (Banović, Grunert, Barreira, & Fontes, 2009) on adoption. However, organizing tastings can be laborious and quite expensive. The use of FLEs to offer advice may both be cheaper and easier to organize, and thus more attractive for providers launching a new alternative. Offering a referent product (Gentner & Holyoak, 1997) or analog information from a credible source next to providing claims of newness may help raise interest (Martins & Pliner, 2005). Advice offered by a FLE may help, not only to reduce consumers' perceived risk, but also their need for sampling and thus sensory experience before buying. Although this will only work if the new product resembles a product that the consumer likes (Grunert et al., 2004), the effect may be substantial, with handsome opportunities for reducing marketing cost.

3. Study 1

Study 1 focuses on the impact of information provided by a FLE on consumer adoption of an incremental new product. We test the effect of an FLE simply promoting a new incremental product by telling it is new versus promoting it as new and offering information about its closest referent in order to stimulate analog learning and thus transfer of product knowledge from the analog. As outcome, i.e. dependent

variables, we focus on consumers' attitude towards the new product and willingness to buy the new product.

3.1. Method

3.1.1. Product and store context

For the new product, we focus on aquaculture, and in particular on the case of the fillets of the less familiar species of greater amberjack (*Seriola dumerili*). Based on the similarity of greater amberjack with tuna (Cultured Aquatic Species Information Programme & Seriola, 2018), the latter species was communicated as its closest referent. A fish monger setting was chosen to make the FLE's role natural and instrumental – in a specialty store FLEs are considered knowledgeable and their advice trustworthy and useful. To offer the participants a choice, two other products (i.e., tuna and cod), were included in the experiment as familiar alternatives.

3.1.2. Data collection

Using an online questionnaire, data from a sample of consumers in the United Kingdom were collected. The data were collected in 2018 via the consumer panel from a professional international market research agency. Only those, fully or partly, responsible for the household purchases, who consumed fish products at least once a month, and were able to prepare a meal at home, were selected to participate. These selection criteria were applied to make the scenario of shopping for a meal for one's family more credible.

3.1.3. Participants

The sample consisted of 331 participants. The allocation of participants across manipulations varied slightly, but was almost equal, from $n = 108$ for the control group to $n = 109$ for the 'new only' and $n = 114$ for 'new and similar to tuna' groups.

Table 1 reports several demographics of the sample. The participants had an average age of 39.1, were predominantly female (61.6%), had between 2 and 3 children and average income. As anticipated the majority of participants, i.e. 72.1%, was unfamiliar with the new product (i.e., fish fillets from greater amberjack). On average participants reported using 2 to 3 buying criteria (mean = 2.47). The top three criteria people mentioned were: suitable for my dish (31.5%), appetizing appearance (18.0%), and freshness (17.5%).

3.1.4. Scenarios

Participants were first asked to imagine that they had to buy fish fillets for a meal for their family, at their local fish monger. In the presented description, the monger (as FLE/ key informant) suggested three different fillets for the consumer's dish: cod, tuna (both familiar products), and greater amberjack (the incremental new product). The

Table 1
Socio-demographic profile of the participants ($n = 331$).

Characteristics		Percentage*
Age	mean in years	38.9
Gender	male	38.1
Household size	1	14.2
	2	28.4
	3	19.3
	4	22.4
	> = 5	15.7
Children at home	Yes	50.8
Level of education	Primary school	0.3
	Secondary school	23.9
	Higher education-not university	38.4
	University- first degree, BSc	31.1
	University Post graduate, PhD	6.3
Income	more than average	13.0
	average	63.1
	less than average	23.9

monger then continued with one of three scenarios: (i) promoted the fillets from greater amberjack as a new product, (ii) promoted the fillets of greater amberjack as new incremental product and mentioning its closest referent ('it is like tuna'), or (iii) offered no advice along with mentioning the three different fillets of the choice set (control group). Pictures of the three different fillets on ice accompanied each scenario, in order to mimic the display in a monger's fish counter. To eliminate price effects, participants were informed that all three options fitted their budget. In between the monger's comments and before participants had to give their evaluation of all products shown, we asked them about their thoughts regarding the monger's advice (open question), and to list their purchase criteria for this decision in this setting. Finally, participants were asked to choose and provide information about their attitude and willingness to buy each of the three products offered to them.

3.1.5. Measures

Willingness to buy was measured using two items measured on a 7-point Likert scale ranging from 1 to very little to 7-very much. Two outcome variables were used: (i) attitude towards the new product, and (ii) willingness to buy the new product. The attitude construct used three items, measured on a semantic differential scale. As a control we added the participant's innovativeness (3 items measured on a 7 point Likert scale), and used a single item to measure participant's need to sample first (i.e., "not buying new without having tasted a product"). Finally, we incorporate familiarity with greater amberjack, and general involvement with fish category as control variables. Appendix A shows the operationalization of the measurement items and the original sources of the constructs.

An exploratory factor analysis with Varimax rotation and Eigen value of 1 showed clean factors. All constructs had reliability scores of > 0.7 (Cronbach Alpha) and variance extracted of > 0.5 . Fornell and Larcker (1981) test for discriminant validity was also conducted, confirming the discriminatory powers of the constructs. Next, the correlation coefficients for all the constructs in the study were examined for potential interrelationships among the variables. The correlation matrix for all constructs in the study are shown in Table 2.

3.1.6. Data analysis

The data were analysed in two stages. First we explored descriptive statistics and correlations. Next, MANCOVA was used with the three scenarios as factors and innovativeness, need to taste first and familiarity with greater amberjack as covariates. Box's M test, which tests whether observed covariance matrices of the dependent variables are equal across groups, was significant (Box's M = 36.52; $F = 2.004$, $p < .007$). Since Levene's Test of Equality of Error Variances revealed that none of the dependent variables was significant, the assumption of equality of the error variances of the dependent variables was not violated. Consequently, we focused on Pillai's Trace instead of Wilks' Lambda coefficients for the estimation of effects.

Table 2
Correlations and descriptives among study variables (n = 331).

Characteristics	M	SD	α	1	2	3	4	5	6	7	8	9	10
1. Attitude _{FLE advice}	5.01	1.29	0.92	–									
2. Attitude _{new product}	4.58	1.62	0.94	0.38**	–								
3. Willingness to buy	4.69	1.64	0.93	0.62**	0.61**	–							
4. Innovativeness	4.16	1.45	0.90	0.36**	0.42**	0.58**	–						
5. Need to taste first	3.97	1.60	NA	–0.14**	–0.19**	–0.31**	–0.15**	–					
6. Familiarity new product	2.32	1.85	NA	0.10*	0.29**	0.23**	0.47**	0.18**	–				
7. Involvement	4.94	1.28	0.84	0.33**	0.29**	0.37**	0.51**	–0.11*	0.22**	–			
8. Gender	0.38	0.49	NA	–0.04	–0.02	0.03	0.04	0.08	0.06	–			
9. Education	3.20	0.89	NA	–0.05	0.09	0.09	0.12*	–0.14	–0.02	0.07	–0.01	–	
10. Age	39.14	14.18	NA	0.00	–0.05	–0.02	–0.10*	–0.12*	–0.26**	0.03	0.21**	–0.07	–

Note: M = mean, SD = standard deviation, α = Cronbach's alpha; *p < 0.05; **p < 0.01.

3.2. Results

Table 3 shows the results using attitude towards the new product and willingness to buy as dependent variables, respectively, including the manipulations as fixed effect and the innovativeness, need to taste first and familiarity with greater amberjack as covariates.

Our model explains a reasonable level of variance (adjusted R^2) in the dependent variables, varying from 21.6% of variance in attitude towards the new product to 38.0% of willingness to buy. More importantly, we find a significant effect ($p < .05$) of the experimental conditions on attitude towards new product and willingness to buy.

The covariates 'innovativeness' and 'need to taste first' affected all dependent variables ($p < .01$), whereas 'familiarity with product' was only significant on attitude towards the new product ($p < .01$), but not on willingness to buy ($p > .10$).

Fig. 1a and b show the detailed MANCOVA results for the impact of the different groups on the dependent variables. The groups are: (1) having received information of 'new product'; (2) 'new product and similar to tuna'; and (3) no information/advice (control group). Fig. 1a shows that the treatment groups have a positive effect on attitude towards the new product in comparison to the control group condition. The figure shows a very small, non-significant increase in mean of attitude towards the new product, which stems from informing participants of the new product by mentioning its similarity to the referent product, i.e., tuna. Fig. 1b shows that the willingness to buy of the groups with the different manipulations also exceed those of the control group. Both results suggest that FLEs' active communication aimed at growing awareness and 'categorization' of the new product works. However, the difference between the two manipulations are non-significant ($p > .10$).

3.3. Discussion

The aim of Study 1 was to test whether offering information about the new product's closest referent, i.e. analog, could induce the schema of this product and thus stimulate consumers' acceptance of the incremental new product. The idea was to facilitate analog learning and thus create an effective transfer of category knowledge. Offering an analog creates a new product schema that is connected to the schema of the analog product by organizing them into a more general schema encompassing both products. This process and knowledge development reduces uncertainty surrounding the new product.

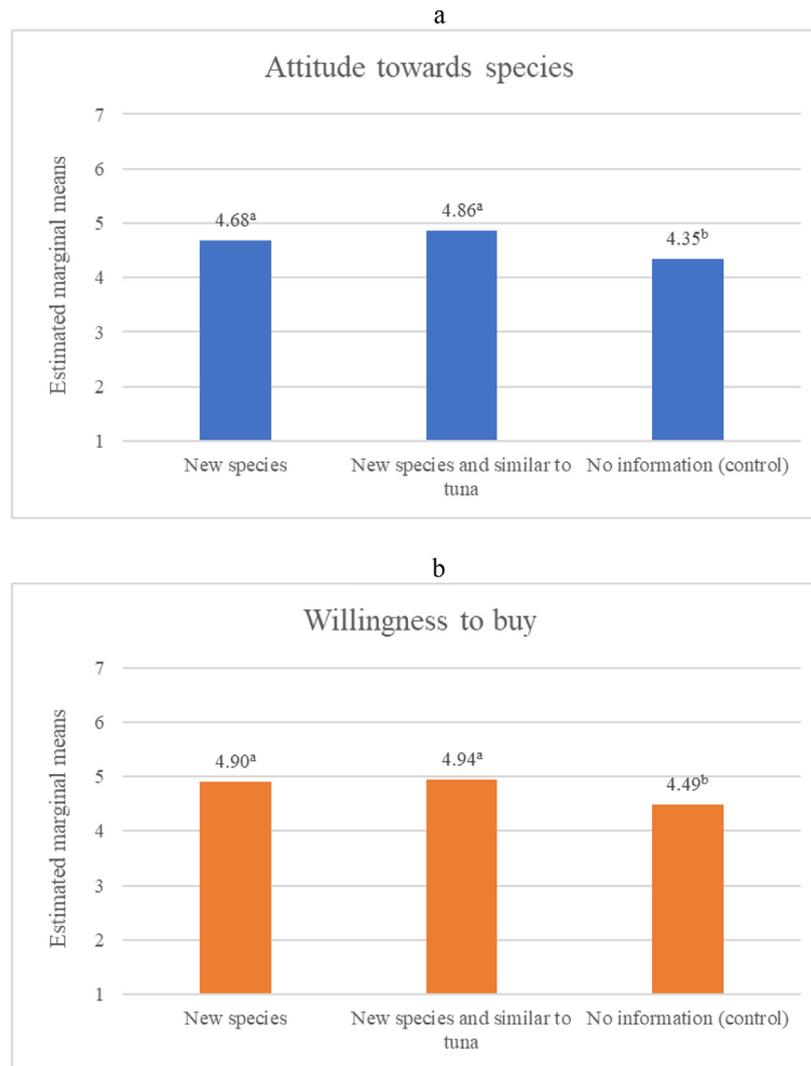
Interestingly, our results offer no support for the anticipated analog learning effects. We only find a positive effect of newness on attitude and willingness to buy. Although still better evaluated than if no advice is provided by the FLE, the newness plus closest referent scenario received no significantly higher evaluation than providing information about newness alone. It is possible that in our experimental setting and for the imaginary purchase of fish, the additional information about closest referent was less necessary than the impact of variety seeking tendencies.

Table 3
MANCOVA Results of Between-Subjects Effects.

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	p.	Partial Eta ²
Corrected Model	Attitude _{new product}	199.37 ^a	5	39.88	19.20	0.000	0.23
	Willingness to Buy	341.01 ^b	5	68.20	41.48	0.000	0.39
Intercept	Attitude _{new product}	204.07	1	204.07	98.25	0.000	0.23
	Willingness to Buy	146.76	1	146.76	89.25	0.000	0.22
Innovativeness	Attitude _{new product}	46.40	1	46.40	22.34	0.000	0.06
	Willingness to Buy	160.11	1	160.11	97.37	0.000	0.23
Need to taste first	Attitude _{new product}	27.29	1	27.29	13.14	0.000	0.04
	Willingness to Buy	40.85	1	40.85	24.85	0.000	0.07
Familiarity	Attitude _{new product}	31.68	1	31.68	15.25	0.000	0.05
	Willingness to Buy	3.70	1	3.70	2.25	0.134	0.01
Experimental condition (scenario)	Attitude _{new product}	14.38	2	7.19	3.46	0.033	0.02
	Willingness to Buy	13.35	2	6.67	4.06	0.018	0.02

^a R² = 0.228 (Adj. R² = 0.216).

^b R² = 0.390 (Adj. R² = 0.380).



Notes: Means with a different superscript (a, b, c) indicate a significant difference ($p < .05$) (means are compared two at a time); Covariates appearing in the model are evaluated at the following values: Innovativeness = 4.30, Need to taste first = 3.95, Familiarity with species = 2.41.

Fig. 1. Effect of the experimental conditions (scenarios) on dependent variables. Notes: Means with a different superscript (a, b, c) indicate a significant difference ($p < .05$) (means are compared two at a time); Covariates appearing in the model are evaluated at the following values: Innovativeness = 4.30, Need to taste first = 3.95, Familiarity with species = 2.41.

4. Study 2

In this follow up study, we aim to better understand the importance of consumers' positive attitude towards the FLE's advice as part of their analogical learning. We anticipate a mediating role of FLE's advice in consumers' attitude formation towards the new product and their subsequent willingness to buy a new product, and explore negative moderating effects of the need to first taste the new product before buying, and of disliking the referent product presented as analog.

A significant mediation effect would suggest that the information of the analog is effective through the consumer's attitude towards the FLE's advice received and attitude towards the new product. The moderators help establish whether the strength of the analog learning effect is contingent on the consumer's need to first sample the new product, and disliking of the analog, i.e. closest referent. The need to taste, i.e. sample first before buying, is an interesting influence because this sensory need may prevent the information from the FLE to be effective, and thus negatively moderates the impact of FLE advice on the consumer's new product attitude and willingness to buy. Disliking of the closest referent may have similar negative influence. By introducing these two moderators we account for different segments of consumers in the market, i.e. a segment that relies on the FLE versus one that relies on its own sensory experience, as well as a segment that is not 'in the market' and thus is not a viable target for the new product.

4.1. Method

4.1.1. Sample

In order to test above assumptions, we used data collected in Study 1 but focusing our attention on the experimental groups who received the claims of 'new product', and 'new product, like...[tuna]' respectively. This offered the opportunity to study the mechanisms involved in analogical learning ('the product is like...') while holding the cue for product newness constant. By focusing on these two treatment groups our sample size is reduced to 223 participants.

4.1.2. Measures

For willingness to buy we now used [Juster's \(1966\)](#) probability to purchase scale. This 10 point scale varies from 'absolute certain to buy' (10) to 'absolutely no chance' (0) and thus offers more variation compared to the scale we used in the experiment of Study 1. Attitude to FLE advice was based on [Lee and Aaker \(2004\)](#) and measured with four items on a 7-point Likert scale ranging from 1 to very little to 7-very much. The other variables are the same as those used in Study 1.

4.1.3. Data analysis

To test the anticipated moderated-mediation model, we use Hayes' PROCESS procedure ([Hayes, 2013](#)).¹ First, we estimated a mediation model with two mediators (model 6). We used the two treatments ('new' and 'new product like...') and willingness to buy as antecedent and dependent variables, respectively, while the consumer's attitude towards the monger/FLE's advice and attitude towards the new product are used as two subsequent mediators. Innovativeness, involvement with the product category, familiarity with the new product (the new species), participant's disliking of the closest referent product (i.e. tuna), need to taste before buying, and the demographics gender, education and age are all used as covariates.

Second, we used Hayes' PROCESS (model 17) to investigate the

moderator effects of consumers' need to taste before buying and (level of) disliking of the closest referent product. The moderation of two relevant relationships, i.e., pathways to willingness to buy, is accounted for: (i) attitude towards the monger/FLE's advice → willingness to buy, and (ii) attitude towards the new product → willingness to buy. This implies that we account for potential direct and indirect effects of the FLE's advice and the moderation of these pathways towards buying. The same set of covariates as for estimating the mediation model are applied, but without the two constructs that were now included as moderators, i.e. need to taste first and disliking the closest referent product.

We ran the models using a bootstrap of 5000 samples and with 95 and 90% confidence intervals.

4.2. Results

[Table 4](#) shows the results of the first Hayes' PROCESS analysis that focused on mediation. The model fits the data well explaining 23, 31 and 51% of variance of the dependent variables, mainly attitude towards FLE advice, attitude towards new product, and willingness to buy the new product, respectively. In other words, we capture a fair amount of variance in our different dependent variables.

The regular regression results ([Table 4](#), top of table) show that the effect of 'product like...' on attitude towards FLE advice is significant (0.48, $p < .01$), while its effects on attitude towards a new product and willingness to buy are not (-0.06 , and -0.43 respectively, $p > .10$). Attitude towards FLE advice positively affects attitude towards new product (0.48, $p < .001$), but also directly influences the consumer's willingness to buy (0.67, $p < .001$). Finally, as anticipated, the effect of attitude towards new product on willingness to buy is also positive and significant (0.50, $p < .001$). It confirms that attitude towards new product is an important driver of people buying behavior.

The actual mediation test is reported in the lower part of [Table 4](#). The results show that the direct effect of 'product like...' on willingness to buy is not significant (-0.43 ; boot CI -1.02 -0.15). [if zero is included in the Confidence Interval (CI) then an effect is not significant]. However its total *indirect* effect is positive and significant (0.41; boot CI 0.09—0.81). The effect of 'product like...' (the analog) is mediated by two pathways: Attitude_{FLE advice} → Attitude_{new product} → Willingness to buy (0.11; CI 0.03—0.29), and by the more direct pathway of Attitude_{FLE advice} → Willingness to buy (0.32; CI 0.13—0.65). So, the advice of the FLE plays a *pivotal role* in the attitude formation and buying decision process of the participants. Although the direct effect of attitude towards FLE advice on willingness to buy is higher than its indirect effect *via* attitude towards new product, the difference is not significant.

Several covariates are significant too. First, we find positive significant effects of innovativeness (0.29, $p < .01$) on attitude towards FLE advice, and attitude towards new product (0.18, $p < .05$). Innovativeness also positively affects willingness to buy (0.60, $p < .01$). It supports the notion that newness triggers innovative consumers to try a new product. Similar, but negative effects are found for 'need to first taste' on attitude towards FLE advice (-0.13 , $p < .05$) and willingness to buy (-0.45 , $p < .01$). Finally 'disliking the closest referent' has a borderline negative effect on attitude towards a new product (-0.74 , $p = .06$), but no significant direct effect on willingness to buy.

The results of the second Hayes' PROCESS analysis regarding moderated—mediation are reported in [Table 5](#). Again, the model explains a fair amount of variance in our different dependent variables, i.e., 21, 18 and 56% of variance or attitude towards FLE advice, attitude towards a new product and willingness to buy. Next to a positive effect of 'product like' on attitude towards FLE advice (0.48, $p < .05$), innovativeness and involvement both affect attitude towards FLE advice and attitude towards a new product (0.24, 0.19, $p < .05$; and 0.33, $p < .05$; 0.15, $p < .10$, respectively). Interesting is also the negative effect of gender on attitude towards FLE advice (-0.28 , $p < .10$),

¹ Hayes' PROCESS analysis is a well-accepted approach to mediation-moderation analysis. It comes with a plug-in SPSS module that can be downloaded and installed as well as a set of templates of different mediation-moderation model possibilities (ranging from Model 1 to Model 73). Based on these templates the applicable model can be selected. See for more information: <http://www.processmacro.org/index.html>

Table 4
Results Hayes PROCESS procedure – Mediation test.

Dependent var's:	Attitude _{FLE advice}				Attitude _{new product}				Willingness to buy			
	coeff	se	t-value	p	coeff	se	t-value	p	coeff	se	t-value	p
Constant	4.00	0.60	6.66	0.000**	1.12	0.81	1.39	0.166	1.91	1.30	1.47	0.143
'Product like...'	0.48	0.15	3.23	0.002**	-0.06	0.19	-0.31	0.756	-0.43	0.30	-1.46	0.147
Attitude _{FLE advice}					0.48	0.08	5.72	0.000**	0.67	0.14	4.68	0.000**
Attitude _{new product}									0.50	0.11	4.54	0.000**
Innovativeness	0.21	0.06	3.22	0.001**	0.18	0.08	2.19	0.030**	0.51	0.13	4.00	0.000**
Need to taste first	-0.13	0.05	-2.45	0.015**	-0.09	0.06	-1.46	0.147	-0.45	0.10	-4.43	0.000**
Familiarity	0.43	0.32	1.35	0.179	0.57	0.39	1.45	0.147	-0.48	0.63	-0.77	0.445
Dislike tuna	0.09	0.32	0.29	0.769	-0.74	0.39	-1.89	0.060*	0.11	0.63	0.17	0.862
Gender (f/m)	-0.25	0.16	-1.57	0.119	-0.09	0.20	-0.44	0.661	0.06	0.31	0.20	0.844
Education	-0.12	0.09	-1.31	0.190	0.19	0.11	1.77	0.079*	0.01	0.17	0.07	0.948
Age	0.00	0.01	0.77	0.443	0.00	0.01	0.52	0.602	-0.02	0.01	-1.41	0.160
	R ² = 0.23 (F = 6.99; p < .001)				R ² = 0.31 (F = 9.57; p < .001)				R ² = 0.51 (F = 19.86; p < .001)			
	Mediation test											
	coeff		se		LLCI		ULCI					
<i>Direct effect</i>												
'Product like..' → Willingness to buy	-0.43		0.30		-1.02		0.15					
<i>Indirect effects</i>												
Total	0.41		0.18		0.09		0.81**					
'Product like' → Attitude _{FLE advice} → Willingness to buy	0.32		0.13		0.13		0.65**					
'Product like' → Attitude _{new product} → Willingness to buy	-0.03		0.10		-0.23		0.15					
'Product like' → Attitude _{FLE advice} → Attitude _{new product} → Willingness to buy	0.11		0.06		0.03		0.29**					

Note: n = 223; Direct and indirect effects: Number of bootstrap samples = 1,000; Level of confidence for all confidence intervals 95% with LLCI, ULCI referring to Lower Level of Confidence Interval and Upper Level of Confidence Interval respectively. ** = p < .05, * p < .10.

which suggests that women are more positive about the advice received from service personnel than male counterparts (see Table 5). Innovativeness and attitude towards a new product both significantly affect willingness to buy (0.47 and 1.18, p < .01, respectively).

More importantly, four moderating effects are significantly affecting willingness to buy: Attitude_{new product} * Need to taste first (-0.13, p < .05), Attitude_{new product} * Dislike referent (-0.97, p < .01), Attitude_{FLE advice} * Dislike referent (1.12, p < .05) and 'product like' * Dislike referent (-3.80, p < .01). For the interpretation, we look at the lower half of Table 5. The moderation involving (the cue of) 'product like' * Dislike referent completely inhibits the positive impact from the analogical learning. However, this elimination is due to consumer disliking of the referent product and appears independent of consumers' need to taste first (see Table 5, conditional direct effects).

The detailed results show no significant impact of attitude towards a new product on willingness to buy, for both our moderators. However, for attitude towards FLE advice we do note (see Table 5 bottom part) that consumers with moderate to high levels of 'need to taste first' do enjoy a positive effect of the advice on this attitude (0.22 and .31p < .05, mean and +1sd). In contrast, the consumers that dislike the closest referent product do not experience this positive effect, and are thus unaffected by the information provided by the FLE on their attitude towards FLE advice. Interestingly, when we relax the reliability of the bootstrap to 90% then also consumers with high disliking of the referent product are positively valenced (see last four lines of Table 5, the LLCI-ULCI scores listed between brackets).

4.3. Discussion

The outcome of Study 2 confirms the importance of FLEs' advice. The consumer's attitude towards the advice of the credible source, i.e., the FLE, has a direct positive effect on willingness to buy, but is partially mediated and thus filtered by the consumer's attitude towards the new product. The information about product similarity provided by the FLE (as a credible source) has a persuasive effect thus producing a significantly higher product adoption rate of the incremental new product. However, this effect is moderated by the consumer's (dis)liking of the referent product and his/her need to taste the new product

first. For more cautious consumers, FLE advice has a positive impact. This positive effect exists for those with positive valence towards the closest referent, and less but still positive impact for those with negative valence toward the referent/analog. The effectiveness of convincing people who dislike the referent is very interesting, and even remarkable.

5. General discussion

The current study explored the effect of providing information about an incremental new product's closest referent ('the product is like...') and the instrumental value of FLEs as credible source of this information on shaping consumers' attitude towards the new product, and their willingness to buy this product. Below, we will discuss the findings of our two consecutive studies in detail.

First, the findings of our study suggest that promoting an incremental new food product has a positive effect on consumers' attitude towards this new alternative and on their willingness to buy. This finding corroborates results from previous studies that show higher acceptance of incrementally new food products as compared to more radically new food products. More specifically, our findings are in line with prior research that suggested that consumers evaluate moderately incongruent new products more positively than congruent or extremely incongruent ones (Mandler, 1982; Meyers-Levy & Tybout, 1989). It suggests that for incremental new food products, communicating newness of the product may lead to a more positive product evaluation and thus is a viable practice to implement.

Drawing on analogical learning theory (Gentner, 1989; Gregan-Paxton & Roedder-John, 1997; Holyoak, 2012), we expected that the effect of stimulating awareness by communication of a product's newness could be enhanced by also providing information about the new product's closest referent. We distinguished two behavioural motivations for this positive effect. First, information about the analog (i.e., familiar product) allows for a higher adoption through transfer of category information and thus better integration of the new product's information (Banović et al., 2010). Second, the induced similarity reduces the risk related to the trial and adoption of new products. Although it did not significantly outperform the positive effect of only

Table 5
Results Hayes PROCESS procedure – Moderated-mediation test.

Dependent var's:	Attitude _{FLE advice}				Attitude _{new product}				Willingness to buy			
	coeff.	se	t-value	p	coeff.	se	t-value	p	coeff.	se	t-value	p
Independent var's												
Constant	3.15	0.49	6.47	0.000**	1.85	0.64	2.89	0.004**	2.16	2.26	0.96	0.340
Attitude _{FLE advice}									-0.01	0.39	-0.03	0.973
Attitude _{new product}									1.18	0.31	3.82	0.000**
'Product like...'	0.48	0.15	3.19	0.002**	0.18	0.20	0.92	0.357	-0.01	0.84	-0.02	0.987
Innovativeness	0.24	0.06	3.85	0.000**	0.33	0.08	3.95	0.000**	0.47	0.13	3.47	0.001**
Familiarity	0.34	0.32	1.06	0.290	0.69	0.42	1.62	0.107	-0.12	0.63	-0.18	0.855
Involvement	0.19	0.07	2.80	0.006**	0.15	0.09	1.73	0.085*	0.00	0.14	0.02	0.981
Gender	-0.28	0.16	-1.74	0.084*	-0.22	0.21	-1.07	0.287	0.10	0.30	0.34	0.736
Education	-0.07	0.09	-0.78	0.437	0.17	0.11	1.53	0.127	-0.07	0.17	-0.42	0.674
Age	0.01	0.01	1.20	0.231	0.01	0.01	1.16	0.249	-0.02	0.01	-1.55	0.123
Need to taste first									-0.50	0.43	-1.15	0.253
Dislike tuna									0.19	2.61	0.07	0.941
<i>Moderating effects</i>												
Attitude _{new product} * Need to taste first									-0.13	0.06	-2.02	0.045**
Attitude _{new product} * Dislike referent									-0.97	0.36	-2.69	0.008**
Attitude _{FLE advice} * Need to taste first									0.12	0.08	1.46	0.147
Attitude _{FLE advice} * Dislike referent									1.12	0.57	1.97	0.050**
'product like'* Need to taste first									-0.02	0.20	-0.18	0.855
'product like'* Dislike referent									-3.80	1.25	-3.03	0.003**
	R ² =0.21 (F = 7.97; p < .001)				R ² =0.18 (F = 6.46; p < .001)				R ² =0.56 (F = 15.11; p < .001)			

Moderated-Mediation test

Conditional direct effect X ('product like') on Y (Willingness to buy) at values of the moderator

	Need to taste first		Dislike referent		coeff	se	t-value	p	Bootstrap†	
	LLCI	ULCI	LLCI	ULCI					(95%)	ULCI
'product like'	2.46	0	-0.07	0.43	-0.17		0.862	-0.92	0.77	
'product like'	2.46	1	-3.87	1.29	-3.00		0.003	-6.41	-1.33**	
'product like'	4.01	0	-0.11	0.30	-0.38		0.707	-0.71	0.48	
'product like'	4.01	1	-3.91	1.22	-3.20		0.002	-6.32	-1.50**	
'product like'	5.56	0	-0.15	0.43	-0.36		0.722	-0.99	0.69	
'product like'	5.56	1	-3.95	1.23	-3.21		0.002	-6.37	-1.53**	

Conditional indirect effects of X on Y at values of the moderator

	Need to taste first		Dislike referent		coeff	se	LLCI ULCI (95%)		LLCI ULCI (90%)	
	LLCI	ULCI	LLCI	ULCI			LLCI	ULCI	LLCI	ULCI
Attitude _{new product}	2.46	0	0.16	0.17	-0.13		0.56			
Attitude _{new product}	2.46	1	-0.02	0.18	-0.58		0.22			
Attitude _{new product}	4.01	0	0.12	0.13	-0.12		0.40			
Attitude _{new product}	4.01	1	-0.05	0.19	-0.70		0.13			
Attitude _{new product}	5.56	0	0.09	0.10	-0.08		0.33			
Attitude _{new product}	5.56	1	-0.09	0.20	-0.84		0.10			
Attitude _{FLE advice}	2.46	0	0.13	0.13	-0.06		0.46	-0.01	0.42	
Attitude _{FLE advice}	2.46	1	0.67	0.73	-0.49		1.89	-0.09	1.63	
Attitude _{FLE advice}	4.01	0	0.22	0.11	0.05		0.50**	0.08	0.47*	
Attitude _{FLE advice}	4.01	1	0.75	0.74	-0.22		2.14*	0.03	1.75*	
Attitude _{FLE advice}	5.56	0	0.31	0.15	0.07		0.68**	0.12	0.65*	
Attitude _{FLE advice}	5.56	1	0.84	0.76	-0.12		2.28	0.12	1.92*	

** = p < .05.

*p < .10.

Note: n = 223; Direct and indirect effects: Number of bootstrap samples = 1,000; † LLCI, ULCI referring to Lower Level of Confidence Interval and Upper Level of Confidence Interval respectively; ** = p < .05, *p < .10.

stressing novelty of the new product, the findings of our study showed that the transferred analog information of the familiar referent product did improve attitude towards the new food product. These findings are consistent with Tuorila et al. (1998) who noted: “[T]he information on product category may offer advantages if an unfamiliar food product is to be promoted without the possibility of tasting it.” (p.427) and extends recent findings in this domain (e.g., Fenko et al., 2015; Isaac & Grayson, 2017; Nekmat et al., 2019).

In our follow up study, we opened up the black box of the analogical learning mechanism by focusing on consumer attitude towards the FLE's information as mediator. FLEs can act as credible information source and thus facilitate the acceptance of newly launched products, inducing the persuasiveness of the transferred analog information. FLEs are an important means of marketing communication, and the current study presents a meaningful extension of prior work by Isaac and Grayson (2017), Sirdeshmukh et al. (2002), and Harris et al. (1997) among others. The results of our study indeed showed that attitude towards the FLE's advice is a pivotal mediator in the consumer's analog

learning process. It confirms that FLEs play an important role as personal source of information. The findings correspond and extend results suggesting that consumers might search for cues from the environment, such as FLEs, to assess the appropriateness of a new product option (Isaac & Grayson, 2017; Pornpitakpan, 2004). The credibility of the FLE can be particularly leveraged in specialty stores to stimulate new product adoption, or at least trial. It corroborates research that shows that source advice conditionally depends on the level of source credibility, which is higher and thus more potent for personal than impersonal sources of information (Nekmat et al., 2019). Although the consumer's attitude towards the advice of the credible source, i.e., the FLE, has a direct effect on willingness to buy, it is –as we would expect– partially mediated and thus filtered by the consumer's attitude towards the new product.

A negative attitude towards the referent product will completely neutralize the positive effects of analog on a consumer's adoption. It confirms that analog learning's effectiveness is limited to direct transfer only if the consumer likes the closest referent. Since those that dislike

the referent probably are not part of the target segment anyway, this should not be a surprise or problem. Most interesting is the positive moderating effect of the need to sample the new product first; these findings show that the advice of the FLE is an important *substitute* for consumers needs for sensory experience. Interestingly, consumers with moderate and high neophobic tendencies are more easily persuaded by the FLE than those with low neophobic tendencies. The FLE's advice helps to reduce their perceived risk and stimulate trial. More specifically, for these consumers we note a significant increase of their willingness to buy even for those people with negative valance towards the referent product. This suggests a very powerful persuasion of the FLE's advice based on the analogical learning that takes place, and thus based on the new more general product category that is mentally created. It contrasts sharply to consumers who immediately, based on the analog information, dismiss the new alternative all together.

Finally, we found that innovativeness has a strong positive relationship with willingness to buy. This is in line with previous research (Huotilainen, Pirttila-backman, & Tuorila, 2006). Additionally, interesting is the result that women are more positive about the advice received from service personnel than male counterparts. It is consistent with prior results that female shoppers are more likely than males to be influenced by e.g., employees of shopping malls (Hai-Salema, Chebat, Michon, & Oliveira, 2016). Compared to men, females are more relationship-oriented (Meyers-Levy, 1988), which may explain why for them also analogical learning through FLEs may be easier to accomplish. Future work could study this conjecture in more detail.

5.1. Limitations and recommendations for future research

The current research has some limitations that offer opportunities for future research. First, this study may explain only consumers' incremental new food product acceptance in a fish context. Therefore, we suggest replication using other incrementally new food products but also incrementally new nonfood products. This will help demonstrate the generalizability of our findings.

Furthermore, the results of our study are specific to the incrementally new food products. Future research may look what role FLEs may play in the transfer of analogical product information for more radically new food products.

Additionally, our sample concerned consumers from the United Kingdom. Therefore, replication in other countries would be welcome too. For example, we suggest replicating the current study in other countries and cross-cultural settings (e.g., non-Western) to reinforce results in a global context.

Furthermore, our study focused on consumer's innovativeness and consumer's need to sample first as two variables that may account for individual differences. Future research may take other individual differences into account, like variety seeking tendencies and food neophobia.

Finally, our study used an online experiment with scenarios. Although such an online experiment resembles a real-life market context, a real life experiment would be useful. A follow-up field study with actual buying behavior could help increase the external and ecological validity of the findings of this study. Specialty stores but also supermarkets may be considered. It would help to test and further develop analog learning theory for stimulating adoption of new products, which in itself remains a major challenge for firms around the world.

6. Conclusion and practical implications

With the stable growth of self-service technologies for many food retailers it can be quite straightforward to cut out costs associated with FLEs, particularly if profit margins are low. However, this research shows that FLEs presence and their recommendations have a direct positive effect on consumers' acceptance of an incremental new product. Retailers should consider hiring FLEs based on how good they are

at communicating and expressing themselves, particularly as mere FLEs presence already has positive impact on key customer outcomes (Söderlund, 2017). The better FLEs skills of communicating about the product newness and analog information of a familiar closest referent product, the better an atmosphere can be created, the more persuasive the information provided by the FLE may be. This is especially important in the case of consumers with moderate cautiousness, i.e. those with a high need to taste new products before purchase. Furthermore, retailers should encourage, and coach/instruct, employees how to provide information about the incremental new product's closest referent ('the product is like...'). Providing information through FLEs about unfamiliar products and pointing can seriously stimulate a trial and adoption of incrementally new alternatives. Having in mind that most of the food purchases are (still) done by women, the effectiveness of FLEs ability to create a positive atmosphere and communicate information may be very powerful because women are more enthusiastic about receiving advice from FLEs than male counterparts. Thus, retailers should think twice before eliminating FLEs from the picture. FLE advice is quite potent for reducing uncertainty surrounding new products, such as for aquaculture products, where information may be scares and negative publicity may exist. FLEs can remedy such uncertainty by offering good advice (Savadori et al., 2010).

CRedit authorship contribution statement

Edwin J. Nijssen: Conceptualization, Methodology, Formal analysis, Writing - original draft, Writing - review & editing. **Machiel J. Reinders:** Conceptualization, Formal analysis, Writing - original draft, Writing - review & editing. **Marija Banovic:** Conceptualization, Writing - original draft, Writing - review & editing.

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Appendix A.: Operationalization of constructs

Attitude to new product (answers on a semantic differential scale – 3; + 3); Chandran & Menon (2004).

Very unattractive/very attractive

Very unappealing/very appealing

Very uninteresting/very interesting

Willingness to buy (Study 1) (answers on a 7-points Likert scale ranging from *very little* to *very much*).

How likely are you to follow the advice and try this new product?

How likely are you to give the new product a chance and purchase it to prepare your recipe?

Willingness to buy (Study 2) (answers on 10-point scale varies from *absolute certain to buy* (10) to *absolutely no chance* (0)); Juster's (1966) probability to purchase scale

Attitude to FLE advice (answers on a 7-points Likert scale ranging from *very little* to *very much*); Lee and Aaker (2004).

How much do you appreciate the monger's advice?

How believable do you think his information?

How trustworthy is his advice?

How helpful do you think this advice?

Innovativeness (answers on a 7-points Likert scale ranging from *very little* to *very much*); Goldsmith & Hofacker (1991)

In general, I am among the first in my circle of friends to buy a new fish species when it appears

If I heard that a new product was available in the store, I would be interested enough to buy it.

New fish products I do like to try before other people do.

Need to taste first (answers on a 7-points Likert scale ranging from *very little to very much*); Goldsmit & Hofacker (1991)

Will not buy a new fish product if i haven't tasted/tried it yet.

Involvement (answers on a 7-points Likert scale ranging from *very little to very much*); based on Mittal, 1995)

For me fresh fish is a product that is important to me

For me fresh fish matters a lot

Have the knowledge to evaluate the quality of fish

Familiar with greater amberjack before this experiment (answers on 7-points Likert scale ranging from *very unfamiliar to very familiar*)

Before this experiment, had you heard of, or were familiar with greater amberjack?

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