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### ► To cite this version:

Adriana Galinanes Plaza, Laure Saulais, David Blumenthal, Julien J. Delarue. Eating location as a reference point: Differences in hedonic evaluation of dishes according to consumption situation. *Food Quality and Preference*, 2019, 78, 10.1016/j.foodqual.2019.103738 . hal-02617948

**HAL Id: hal-02617948**

**<https://hal.inrae.fr/hal-02617948>**

Submitted on 26 Oct 2021

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**Eating location as a reference point: differences in hedonic evaluation of dishes according to consumption situation**

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32

## 33 1. Introduction

34 In spite of numerous studies on the influence of context on consumers' evaluation of food products,  
35 mechanisms underlying this influence are not well known. This limits the pursuit of ecological validity  
36 of consumer tests of products, and in particular the attempts to contextualize controlled environments  
37 (Galiñanes Plaza, Delarue, & Saulais, 2019). To date, most published studies on context have focused  
38 on physical variables without addressing test participants' attitudes, expectations or mood states  
39 (Edwards, Meiselman, Edwards, & Leshner, 2003; King, Weber, Meiselman, & Lv, 2004; Meiselman,  
40 Johnson, Reeve, & Crouch, 2000; Stroebele & De Castro, 2004). Nevertheless, consumers' attitudes,  
41 prior beliefs and past experiences have been highlighted as variables that may explain differences in  
42 liking and behavior from one consumption context to another (Bernard & Liu, 2017; Cardello, Bell, &  
43 Kramer, 1996; Edwards & Hartwell, 2009; Tuorila, Palmujoki, Kytö, Törnwall, & Vehkalahti, 2015).  
44 This is because people and locations are most often confounded variables, which makes generalization  
45 of measures to other contexts difficult (Delarue & Boutrolle, 2010). We may thus consider that  
46 depending on the consumption context, consumers' prior beliefs or expectations toward the location  
47 and the quality of the served food may predispose to a different state of mind, leading consumers to a  
48 different evaluation and behavior.

49 This echoes the notion of reference point described by Tversky & Kahneman (1991) in their Prospect  
50 Theory. It suggests that judgement and decision-making are reference-dependent. In other words,  
51 individuals do not make absolute judgements but base their evaluation on reference points. Following  
52 this theory, consumers can have a different reference point for each context, hence modifying their  
53 framework of evaluation.

54 We conducted a preliminary focus group study on beliefs about the food served in different  
55 consumption contexts. It revealed that consumers associate different eating places to different levels of  
56 quality, price and product types, which was expected. Moreover, they also associate eating places to  
57 different preparation modes: universities or company canteens, fast-food restaurants are strongly  
58 associated to readymade products, whereas *brasseries* and gastronomic restaurants are associated to  
59 'homemade' preparation (Galiñanes Plaza, Saulais, & Delarue, 2018). Consumers' representations  
60 about the food preparation mode associated to each context may thus influence how food products are  
61 perceived and liked.

62 Therefore, we can hypothesize that consumers evaluate food within a framework of reference that may  
63 be determined by the consumption context itself. In this view, the purpose of this study was to  
64 examine the influence of context on consumers' attitudes towards food, as related to their  
65 expectations. In order to test this, we emphasized on the quality (readymade or homemade) of the  
66 served food with the hypothesis that consumers' expectations would depend on the evaluation context.  
67 More specifically, we were interested in the extent to which expectations (considered as reference  
68 points) were met, or in other words, whether consumers were satisfied or dissatisfied by the food they  
69 were served.

70 Following a between-subject design, we measured consumers' liking for two variants of a given food  
71 (ham-olives cake) as well as the level of fulfillment of their expectations in two contexts: an  
72 experimental restaurant and a standard testing room (STR). Additionally, in each context, we tested  
73 the influence of information about the quality of the food (readymade or homemade).

74 Following the assumptions of prospect theory regarding reference points (Tversky & Kahneman,  
75 1991), we hypothesized that (i) in the realistic consumption context, consumers liking scores would be  
76 higher than in the controlled setting; (ii) information about homemade products would obtain higher  
77 rates than readymade products regardless of context; (iii) the impact of information regarding food  
78 quality would differ depending on the testing location.

79

## 80 **2. Material and methods**

### 81 2.1. Participants

82 Two hundred and eighty-three consumers were recruited via the database of the Research Centre of the  
83 Institut Paul Bocuse, social networks and local newspapers. Each participant was randomly appointed  
84 to either the "Living Lab" study (restaurant) or the standard testing room (STR) and within each  
85 context, to the informed or the non-informed condition (each condition was tested on a different day).  
86 One hundred and forty-five participants took part in the restaurant study, (57.2% were female and  
87 42.8% male; mean age  $44.45 \pm 9.92$ ). One hundred thirty-eight participants took part of the standard  
88 testing room (STR) study (61.6% were female and 38.4% male; mean age  $43.86 \pm 9.93$ ). Inclusion  
89 criteria were age (between 30 and 60 years old) and allergies (no known food allergy). Cooking habits  
90 and eating out frequency responses were collected to better characterize the studied population. Table  
91 1 details their characteristics.

92 Participants were not financially compensated for their participation, but they were all invited to a free  
93 dinner at the restaurant, either as part of the experiment (for the restaurant groups) or as a follow up to  
94 the experiment (for the STR groups). Only the STR group knew, upon recruitment, that they would  
95 formally participate in a taste test in a controlled condition before the dinner.

96 At the beginning of the test, participants signed a consent form and then were invited to access the  
97 restaurant or to the central location test.

### 98 2.2. Products

99 Participants had to evaluate a ham-olives cake (Figure 1), which is a familiar appetizer product to  
100 French consumers. Two versions of the product were tested: (i) an industrial, commercially available  
101 version (referred to as *readymade product* in the rest of this article). From this readymade product, (ii)  
102 a homemade version (referred to as *homemade product*) was developed by a professional chef for the  
103 purpose of this experiment.

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107

- Insert Figure 1 about here -

Table 1 Characteristics of the participants in both studies: means (SD) or %

Contexts	Restaurant	SRT
Sample size (n)	145	138
Informed	76	71
Non informed	69	67
Female	57.2%	61.6%
Male	42.8%	38.4%
Age (year)	44.45 (9.92)	43.86 (9.93)
Cooking frequency		
Every day	19.7%	23.6%
Between 3-4 times a week	10.7%	11.2%
1-2 times a week	10.3%	8%
<1 time a week	6.9%	3.3%
Never	2.1%	3.6%
Dinning out frequency		
>5 times a month	13.4%	12%
Between 3-4 times a month	6.9%	8.3%
1-2 times a month	15.9%	19.6%
<1 time a month	12.8%	9.4%
Never	0.3%	0.4%
Types of restaurants		
Bar a tapas/wine	14.1%	14.1%
Brasserie/Bistrot	32.4%	34.1%
Bouchon Lyonnais	20.7%	18.8%
French cuisine	39%	37%
International cuisine	30.3%	30.8%
Fast food	15.9%	12.7%

108 According to its label, the readymade product was composed of: cooked ham 21% (pork ham 19%,  
109 water, salt, flavorings, glucose syrup, antioxidant: sodium erythorbate, preservative: sodium nitrate),  
110 eggs 16.5%, wheat flour, canola oil, emmental cheese, green olives 7.9% (green olives 7.5%, water,  
111 salt, acidifier: citric acid, antioxidant: ascorbic acid, preservative: potassium sorbate), bamboo shoots,  
112 sugar, baking powder: Disodium diphosphate and sodium hydrogen carbonate, nutmeg, pepper.  
113 **Regarding** the homemade version, the recipe was adapted using the following proportions: 150g ham  
114 ( $\approx 28.8\%$ ), 4 eggs ( $\approx 1.54\%$ ), wheat flour, canola oil, Emmental cheese, 150g green olives ( $\approx 28.8\%$ ),  
115 milk and yeast. Slight differences in sensory properties between these two versions were detected in an  
116 internal tasting session (notably, the readymade cake was perceived as drier than the homemade  
117 version, and the olive taste was less strongly perceived). Cakes were served in slices (1cm) and care  
118 was taken to make them equally thick in all conditions. The same quantity of product was thus served  
119 in the restaurant and in the STR contexts in order to avoid influences of food quantity or differences in  
120 the eating reference unit (Rozin & Tuorila, 1993). However, we did not measure the quantity of food  
121 that participants consumed.

122 The readymade cakes used throughout the experimental campaign came from a single batch and were  
123 stored in a cold chamber at 4.5°C. On each test day, five readymade cakes were removed from the  
124 cold chamber and placed at room temperature half an hour before the beginning of the service.

125 The homemade cakes were prepared using the same pan model as the readymade version to ensure  
126 that both variants had very similar appearance. They were made the same day and at the same hour for  
127 each testing session in order to limit sensory variations due to ageing and drying out.

128 Each product sample was assigned a 3-digit code displayed by a sticker on the presentation plate. All  
129 samples were presented sequentially at room temperature in a balanced and randomized order between  
130 and within sessions.

### 131 2.3. Settings

132 To compare participants' responses in natural and in controlled situations, the experiment was  
133 conducted in two settings: a restaurant setting (**restaurant**) and a standard testing room (**STR**).  
134 Contextual variables such as portion size, presentation, cutlery, information, timing and social  
135 interaction were considered in the experimental design.

#### 137 A. "Living Lab" restaurant

138 The natural setting was that of the "Living Lab" restaurant of the Institut Paul Bocuse (Figure 1.A.)  
139 This restaurant is a real commercial restaurant, open to the public and known locally as such. It is also  
140 a living lab, in which a number of contextual and product variables can be controlled for, in order to  
141 conduct research. Each day, the tables were organized according to the reservation list and set up  
142 following a schema. Light and temperature were also set and controlled during each service. Once  
143 participants signed the consent form they were welcomed to the restaurant and **conducted** to their

144 table. Before the dinner, a waiter proposed the cakes, presented as a set of two versions of an appetizer  
145 together with a drink, and indicated that participants would have to fill out a short questionnaire during  
146 and after the tasting. First of all, the drink (iced tea or water) was served and then the questionnaire  
147 was brought together with a pen. Prior to consumption, consumers had to indicate if they had any  
148 allergy or dietary restriction.

149 Appetizers were presented in a monadic sequential way. Once participants had rated the first sample,  
150 the second one was presented. Once the appetizer tasting was finished the rest of the dinner took place.

151

## 152 B. Standard Testing Room (STR)

153 Testing in the standard controlled environment took place in one of the classrooms adjacent to the  
154 Research Centre of the Institut Paul Bocuse. A picture of this STR can be seen in Figure 1.B.  
155 Participants were seated and instructions about the test were given by a researcher. The procedure was  
156 the same as in setting A, except that in this case, water was the only drink offered.

157

158 **- Insert Figure 2 about here -**

159

## 160 2.4. Experimental design

### 161 2.4.1. Information conditions

162 Two information conditions were tested in each setting. In the **non-informed** condition, consumers  
163 were provided the two versions of the product with no information about the differences between the  
164 two product versions. In the informed condition, homemade cakes were presented together with a label  
165 displaying “fait maison”, whereas the readymade version was presented with a label displaying  
166 “industriel”.

### 167 2.4.2. Sessions

168 The experiment followed a 2 (setting) x 2 (information condition) design. For all conditions, the two  
169 products were first evaluated and then, participants had a dinner at the “Living Lab” restaurant. The  
170 experimental campaign was conducted over the course of two weeks (one per setting), and sessions  
171 were conducted at two time slots: 7pm and 7.30pm. This organization facilitated the service at the  
172 restaurant and the balance presentation of the two cake versions per day. Participants in the first time  
173 slot received the homemade version first, whereas in the second time slot participants received the  
174 readymade version first. This order was balanced over the week.

175 The two experimental conditions (non-informed and informed) were conducted on separate days to  
176 avoid confusion and uncontrolled information.

### 177 2.4.3. Experimental procedure and evaluation task

178 In all four experimental conditions, participants were presented with samples of the two product  
179 versions. The order of presentation of the products was balanced across subjects in each group.

180 Participants were asked to rate their liking for the appetizer (ham-olive cake) on a 11-point hedonic  
181 scale ranging from “dislike extremely” to “like extremely”, and to rate the extent to which the product  
182 had met their expectations on a bipolar 11-point scale ranging from “lower than my expectations” to  
183 “higher than my expectations” with a midpoint corresponding to “meets my expectations”. Finally,  
184 consumers also rated their preference between the two versions together with an open-ended question  
185 about their choice. All responses were collected using a paper form.

186 Demographic information (gender, age, and other consumers’ characteristics) was also collected at the  
187 end of each questionnaire.

### 188 2.5. Data analysis

189 Liking and fulfillment of expectations data were analyzed using a multi-way analysis of variance with  
190 the subject effect nested in each group (information condition, setting, presentation order). All testable  
191 factors and interactions were tested and a step-by-step analysis was run to remove the non-significant  
192 interactions using Matlab 2017. The best models to explain liking (after 11 rounds) and fulfillment of  
193 expectations data (after 9 rounds) were selected and presented in the present paper. When the ANOVA  
194 showed a significant effect ( $p < 0.05$ ), Tukey’s test for pairwise comparisons was used (SPSS v.16,  
195 SPSS Statistics, Chicago, I).

196 With regards to fulfillment of expectations data, scores ranging from “lower than my expectations” to  
197 “meets my expectations” were converted in negative scores ranging from “-5” to “0” and those from  
198 “meets my expectations” to “higher than my expectations” were converted in positive scores ranging  
199 from “0” to “5”.

200 In order to explore inter-individual differences in liking for each version, we distinguished between  
201 respondents who had reported that the product did not meet their expectations (they were named  
202 “deceived” consumers for that specific product (scores  $< 0$ )) and those who reported that the product  
203 met or exceeded their expectations (scores  $\geq 0$ ). They were named “satisfied” consumers, for that  
204 specific product.

205

## 206 3. Results

### 207 3.1. Liking

208 On average, the cakes were well liked by the participants in both settings (Figure 3). As expected, the  
209 homemade cake was more liked ( $\bar{x} = 7.0 \pm 1.7$ ) than the readymade one ( $\bar{x} = 5.6 \pm 2.2$ ) regardless of the  
210 experimental condition. The analysis of variance shows that the product version induced the most

211 important differences in liking (Table 2). The liking scores also differed depending on the settings  
212 (scores being significantly higher in the restaurant than in the STR ( $p = 0.005$ )).

213

214

- Insert Figure 3 about here -

215

216 Table 2 Summary of the effects of experimental factors on liking scores. Output from the final ANOVA model  
217 (calculated with type III sums of squares)

Source	d.f.	F	p-value
Consumers(Information Conditions, Settings, Presentation order)	279	1.25	<b>0.031</b>
Products	1	80.20	<b>&lt;0.001</b>
Information conditions	1	3.16	0.076
Settings	1	7.94	<b>0.005</b>
Presentation order	1	7.76	<b>0.006</b>
Products*Information Conditions	1	6.18	<b>0.014</b>
Products*Presentation order	1	14.95	<b>&lt;0.001</b>

218

219 3.1.1. Effects of information

220 The presence of information as a main effect did not significantly influence participants' overall liking  
221 scores ( $F_{(1, 280)} = 3.16$ ;  $p = 0.076$ ). Although we hypothesized that information would affect the liking  
222 differently depending on the context, we did not observe such an interaction. Nevertheless, the  
223 presence of information affected the liking differently depending on the product version, as revealed  
224 by the significant product\*information interaction ( $F_{(1, 280)} = 6.18$ ;  $p = 0.014$ ). Post hoc Tukey (HSD)  
225 pair-wise comparison showed that the homemade version was not affected by the presence of  
226 information ( $p = 0.964$ ) while the use of the label negatively affected the liking scores of the  
227 readymade version ( $p = 0.024$ ) (Figure 4). As a result, the difference in liking scores between the  
228 homemade and the readymade cakes was larger (1.8 points on the hedonic scale) when information  
229 was given.

230

231

- Insert Figure 4 about here -

232

233 3.1.2. Effects of sample presentation order

234 The order of sample presentation resulted in a significant difference in the overall liking scores of both  
 235 product versions ( $F_{(1, 280)} = 7.76$ ;  $p = 0.006$ ). However, only the readymade cake was significantly  
 236 affected ( $p < 0.001$ ) - with liking scores dropping 1 unit (on the 11-point hedonic scale) - when tested  
 237 second, after the homemade cake (Figure 5).

238

239 **- Insert Figure 5 about here -**

240

241

### 242 3.2. Fulfillment of expectations

243 After participants tasted each product, they were asked to rate the extent to which the product met their  
 244 expectations or not. Results for the fulfillment of expectations scores showed a similar pattern as the  
 245 liking scores. We observed a significant effect of product version, settings and order of sample  
 246 presentation on the fulfillment of expectations scores (Table 3).

247

248 Table 3 Summary of the effects of experimental factors on expectations scores. Output from the final ANOVA  
 249 model (calculated with type III sums of squares).

Source	d.f.	F	p-value
Consumers(Information conditions, Settings, Presentation order)	278	1.31	<b>0.011</b>
Products	1	45.22	<b>&lt;0.001</b>
Information conditions	1	2.01	0.158
Settings	1	8.05	<b>0.005</b>
Presentation order	1	4.65	<b>0.032</b>
Products*Information conditions	1	4.02	<b>0.046</b>
Products*Presentation order	1	3.54	0.061
Information conditions*Presentation order	1	0.10	0.750
Products*Information conditions*Presentation order	1	4.37	<b>0.037</b>

250

251 **Tukey (HSD) post hoc shows that** participants' scores of fulfillment of expectations were significantly  
 252 higher for the homemade version compared to the readymade one ( $p < 0.001$ ). Participants also rated  
 253 higher their fulfillment of expectations in the restaurant compared to the STR regardless of the product  
 254 version, information condition and order of sample presentation ( $p = 0.009$ ).

255 3.2.1. Effects of information

256 Participants' scores of fulfillment of expectations were not affected by the information conditions ( $F_{(1, 279)} = 2.01$ ;  $p = 0.158$ ). Nevertheless, a significant interaction between product and information  
257 conditions was observed ( $F_{(1, 279)} = 4.02$ ;  $p = 0.046$ ). Higher scores were obtained for the homemade  
258 version than for the readymade version regardless of the information condition. Homemade version  
259 met participants' expectations and even overcame participants' expectations as shown on Figure 6.  
260 However, in the case of the readymade version, participants' scores of fulfillment of expectations  
261 decreased when information was presented, meaning that participants' expectations were not even  
262 achieved (negative scores were obtained), whereas in non-informed conditions the readymade version  
263 met participants' expectations (Figure 6).  
264

265

266

**- Insert Figure 6 about here -**

267

268 3.2.2. Effects of sample presentation order

269 The sample presentation order also affected participants' fulfillment of expectations scores ( $F_{(1, 279)} =$   
270  $4.65$ ;  $p = 0.032$ ). Nevertheless, the two versions of the cakes were differently affected as Figure 7  
271 shows. The order of sample presentation did not affect participants' scores of fulfillment of  
272 expectations for the homemade version ( $p=0.998$ ). However, the scores of the readymade version were  
273 significantly lower ( $p < 0.001$ ) when this version was tested second. Moreover, the three-way  
274 interaction product \* information condition \* presentation order was significant ( $F_{(1, 279)} = 4.37$ ;  $p =$   
275  $0.037$ ). It shows that the presence of information provoked even a higher deception among  
276 participants who scored this product as much lower than their expectations (Figure 8).  
277

277

278

**- Insert Figure 7 about here -**

279

280

**- Insert Figure 8 about here -**

281

282 3.3. Inter-individual differences: analysis of liking and scores of fulfillments of expectations

283 In Figure 9, the first thing to note is that the overall shape of the liking score distribution is different  
284 for the homemade and the readymade versions. The homemade version shows a higher consensus on  
285 the liking scores whereas the readymade version shows a bimodal distribution, especially at the STR  
286 setting in non-informed condition.

287 In order to explain those differences, we highlighted participants whose expectations were not met.  
288 We indeed classified participants' responses into two groups: "satisfied" (whose expectations were  
289 met or exceed) represented in green and "deceived" (whose expectations were not met) in red. Overall,  
290 satisfied participants outnumbered deceived participants (11.6% in the STR, 4.2% in the restaurant).  
291 However, the readymade version gave rise to more deceived participants (31.9% in the STR condition,  
292 31.3% in the restaurant condition) than the homemade version (12.3% in the STR, 8.3 in the  
293 restaurant). Participants are satisfied with the homemade cake no matter where it was tested and  
294 whether it was labelled or not. When this version is tested at the STR we can observed a slight trend of  
295 increase of the scores which may indicate that participants obtained something that they did not  
296 expected to find in that particular context (i.e. a homemade cake in a STR). However, in the case of  
297 the readymade version, bimodal responses are observed in both contexts.

298

299 - Insert Figure 10 about here -

300

#### 301 **4. Discussion**

302 The purpose of this study was to assess the influence of the evaluation context on consumers'  
303 expectations regarding the quality (readymade or homemade) of the served food and on its subsequent  
304 evaluation. We hypothesized that consumers' prior expectations would depend on the evaluation  
305 context and that this would directly impact the liking scores.

##### 306 **4.1. Liking**

307 Results indicate that participants liked the products significantly more in a natural consumption  
308 context than in a standard testing room (STR), supporting the notion that consumer product evaluation  
309 may be context-dependent (Boutrolle et al., 2007; Holthuysen et al., 2017; King et al., 2004;  
310 Meiselman et al., 2000). Some contextual variables such as the ambiance and social facilitation at the  
311 restaurant may also have influenced those results. The environment at the restaurant was warm and  
312 friendly, whereas the ambiance at the STR was colder and participants did not have the possibility to  
313 discuss with each other. Some of the participants in the STR stated that they "felt like they were sitting  
314 in an exam" and this might have modulated participants' mood and therefore their liking (Giboreau,  
315 2017; Porcherot, Petit, Giboreau, Gaudreau, & Cayeux, 2015; Sester et al., 2013). *Moreover, the way  
316 products were consumed in each context could also explain differences in liking scores. In particular,  
317 in the restaurant, participants had the possibility to drink ice tea while they ate the cakes. This factor,  
318 which we consider as part of the context, could have contributed to the increase of liking scores in the  
319 restaurant. Indeed, several studies have shown an increase in the liking scores when specific  
320 combinations of food and drinks are consumed together (Di Monaco, Giacalone, Pepe, Masi, &  
321 Cavella, 2014; Hersleth, Mevik, Næs, & Guinard, 2003). Yet, a closer look at the responses from the  
322 32% of participants who preferred to drink water does not show such an effect, although this could not*

323 be formally tested in our ANOVA model. Meanwhile, we cannot exclude that drinking ice tea could  
324 have modulated participants' perception of the cakes and therefore could have resulted in a  
325 product\*testing condition interaction.

326 Another hypothesis is that the evaluation task itself, and not only the product, may have been  
327 perceived as different in those two contexts: participants may have integrated other aspects related to  
328 the consumption experience (environment, occasion, social facilitation, etc.) to their evaluations,  
329 increasing their scores at the restaurant regardless of the product versions. Conversely, at the STR,  
330 participants were more discriminant towards the two versions. This could be related to a greater  
331 attention placed on the sensory evaluation, and the lack of interaction with a drink (ice tea)  
332 (Hetherington, Anderson, Norton, & Newson, 2006; Köster & Mojet, 2015).

333 As regards product evaluation, results show that the homemade version was rated higher than the  
334 readymade one, regardless of the contexts and regardless of the information condition. As revealed  
335 during the internal tasting session, the readymade cake was perceived to have a drier texture and a  
336 weaker olive taste intensity, which was expected to be less appreciated even if these differences were  
337 small. We also observed that independently of the context there was a higher consensus on the  
338 evaluation and satisfaction of the homemade cake whereas the readymade product resulted in more  
339 variety of opinions. Nowadays, consumers are much more concerned about the food industry and the  
340 quality of processed food than they used to be (Asioli et al., 2017). During our preliminary focus  
341 group study, consumers stated that they were able to differentiate a readymade product from a  
342 homemade one, underlining the importance of the quality of the food when eating out. Consumers  
343 expect to find certain type of quality (homemade) in a restaurant instead of a product they can have at  
344 the supermarket or even at home. However, this is different when it comes to the standard tests where  
345 consumers do not know what they are going to taste or tend to think that they will test industrial  
346 products, so the reference point of evaluation may differ (Galiñanes Plaza et al., 2018).

347 Besides, the liking for readymade cake was significantly affected by the presence of information.  
348 Several studies have shown the effect of information on consumers' products evaluation as well as its  
349 relation to consumers' attitudes and beliefs (Baer et al., 2017; Bernard & Liu, 2017; Schulte-  
350 Mecklenbeck, Sohn, de Bellis, Martin, & Hertwig, 2013; van den Heuvel, van Trijp, Gremmen, Jan  
351 Renes, & van Woerkum, 2006). Priming on certain type of information, in our case "industriel", can  
352 make attitudes and beliefs about that particular information more salient, modifying the final response  
353 of the participants (Reis, Alcaire, Deliza, & Ares, 2017; van den Heuvel et al., 2006). Moreover, a  
354 significant effect of the order of sample presentation was also observed for the readymade version,  
355 especially when it was tested after the homemade version. Lahne & Zellner, (2015) showed a similar  
356 effect when comparing the liking scores of a dish after a good and a mediocre appetizer. The fact that  
357 the homemade cake was higher rated could originate from a contrast effect between both cake versions  
358 that was manifest when the readymade version was tested second. The sample presentation order is  
359 known to have an effect on consumer hedonic evaluation (Boutrolle et al., 2007). However, to our

360 knowledge this effect has not been explored in natural consumption contexts where consumers do not  
361 usually taste two similar products one after another. Conversely, in real life consumers may compare  
362 the product they eat to a personal reference point. This would correspond to a pure monadic testing  
363 mode. Here, having compared two similar products in a monadic way could have modulated  
364 participants' reference points of comparison from one product to another as well as their expectations.

365

#### 366 4.2. Fulfillment of expectations scores

367 Concerning the fulfillment of expectations results, higher expectation scores were fulfilled at the  
368 restaurant compared to the STR. Cardello (1995) described how the perceived food quality and the  
369 expectations about food quality of a same product may differ depending on the context of  
370 consumption, underlining how important consumers' mindset about a particular context is when  
371 evaluating a product.

372 In this study we considered those prior expectations about contexts and food quality as reference  
373 points. In the case of this restaurant we may assume that the reference point as regards the physical  
374 location was high because of its name associated to the prestige of Paul Bocuse. Consumers who came  
375 to the restaurant test at the Institut Paul Bocuse usually expect to find high food quality associated to  
376 the use of natural and local ingredients, tasty (and costly) food. However, in the STR the reference  
377 point was more ambiguous. Consumers usually associate this type of context to the test of industrial or  
378 processed products and not to a meal experience. Our data reflect these differences between the two  
379 contexts as regards food quality: at the restaurant participants' expectations were fulfilled for the  
380 homemade version whereas this was not always the case for the readymade version. Similar results  
381 were obtained in the STR; however, the level of expectations in general in this context was lower as  
382 participants came to the STR with a « lower » overall framework which may relatively impact their  
383 evaluation. Cardello (2003) explains that when expectations are low - even if the perceived intrinsic  
384 quality is high - liking scores will decrease as the perceived liking will assimilate the lower  
385 expectation. This may explain the differences between both contexts and even more, the differences  
386 when the readymade version was labelled and presented before or after the homemade version  
387 (Cardello, 2003; Piqueras-Fiszman & Spence, 2015). The reference point created may have been  
388 modulated for these two factors (product information and order of presentation), modifying the  
389 fulfillment of expectations scores.

390

#### 391 4.3. Inter-individual differences

392 As regards the analysis of inter-individual differences, we observed that the distribution of liking  
393 scores differed depending on the product version and could be related to participants' fulfillment of  
394 expectations. Overall, the homemade version met or exceeded participants' expectations no matter  
395 where it was tested or how it was labelled; however, the readymade version was more disappointing  
396 showing a bimodal distribution of the liking scores and fulfillment of expectations. A possible

397 explanation for this result is that a hedonic contrast between both versions and the product-context  
398 (inappropriate situation) may occur ( Cardello, Schutz, Snow, & Leshner, 2000; Lahne, Pepino, &  
399 Zellner, 2017; Lahne & Zellner, 2015).

400 Conversely, some limitations should be noted and considered for further studies. This study was  
401 conducted in a specific location, the Institut Paul Bocuse, a name associated to one of the major  
402 references of gastronomy in France and worldwide. Participants came to the STR knowing that they  
403 would take part of a study. The STR was located inside of the Institut Paul Bocuse which may have  
404 contributed to create a certain degree of expectations that were not met in both contexts. Moreover, it  
405 is important to consider that, in both settings, participants were invited to the diner. We have  
406 previously mentioned that high food quality was related to higher prices. Thus, the fact that  
407 participants did not pay for their dinner may have led them to a lower engagement in either settings,  
408 which is a typical weakness of such hypothetical tests (as opposed to non-hypothetical tests  
409 implemented in experimental economics). Those limits may contribute to explain the fact that we did  
410 not observe any three-way interaction between the context, the product version and information.

411

## 412 **5. Conclusion**

413 The purpose of this study was to assess the influence of context on consumers' attitudes towards food  
414 by emphasizing the quality (readymade or homemade) of the served food. We hypothesized that  
415 consumers' prior expectations would depend on the evaluation context and that this would directly  
416 impact participants' evaluation.

417 The homemade version obtained a 'higher' reference score on average. This seems to make it less  
418 sensitive to variations of context than the less liked readymade version. Information about the product  
419 version played a key role on participants' evaluation that may be related to participants' prior beliefs  
420 and/or expectations. More generally, information may contribute to the modulation of participants'  
421 reference points.

422 Our results suggest that reference dependent theory may be an interesting way to look at consumers'  
423 mind-set when performing a context comparative study. By modulating this reference point or  
424 framework of evaluation we might be able to explain certain differences between contexts that may  
425 not be related to the physical environment itself but to the attitudes or prior experiences consumers  
426 have had with the served food in a similar context. Moreover, an important finding is that the context  
427 of the evaluation task had an effect stronger than the actual context of consumption (restaurant and  
428 STR). In the case of natural consumption contexts such as restaurants, a monadic sequential  
429 presentation of the products may decrease the ecological validity of the results. Our data also showed  
430 that product order modulate participants' hedonic evaluation as well as the fulfilment of their  
431 expectations. From a practical point of view, this result suggests that the task modulates the reference  
432 point from where consumers make their evaluation and set their expectations and should thus be

433 carefully considered. Indeed, even in contextualized tests for the industry, resulting managerial  
434 decisions may depend on the evaluation task and test design.

435

## 436 **6. Acknowledgements**

437 The authors thank all collaborators of the Institut Paul Bocuse for their assistance in this experiment.

438 This work is part of a PhD project funded by the Société Scientifique d'Hygiène Alimentaire (SSHA).

439

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550

551

552

Figure 1



Figure 2

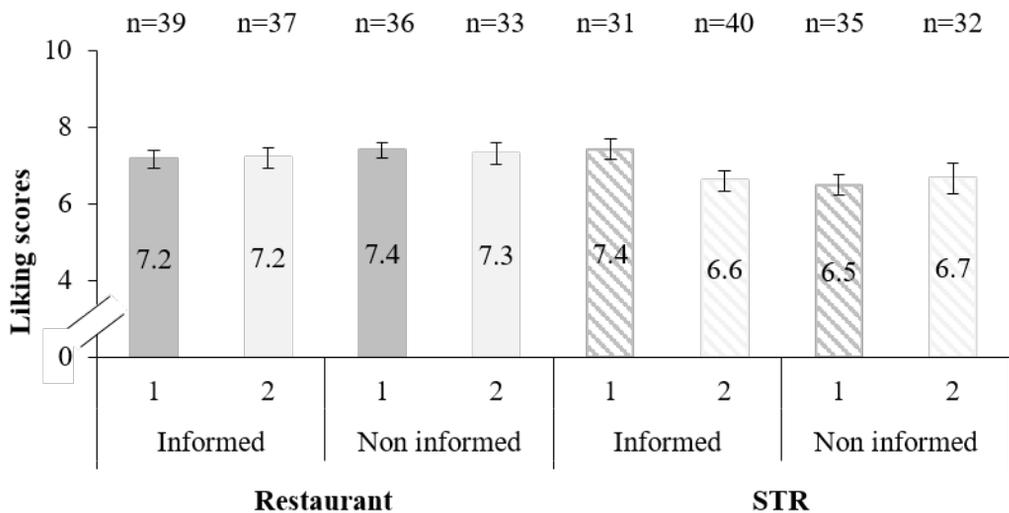
A)



B)



### Homemade version



### Readymade version

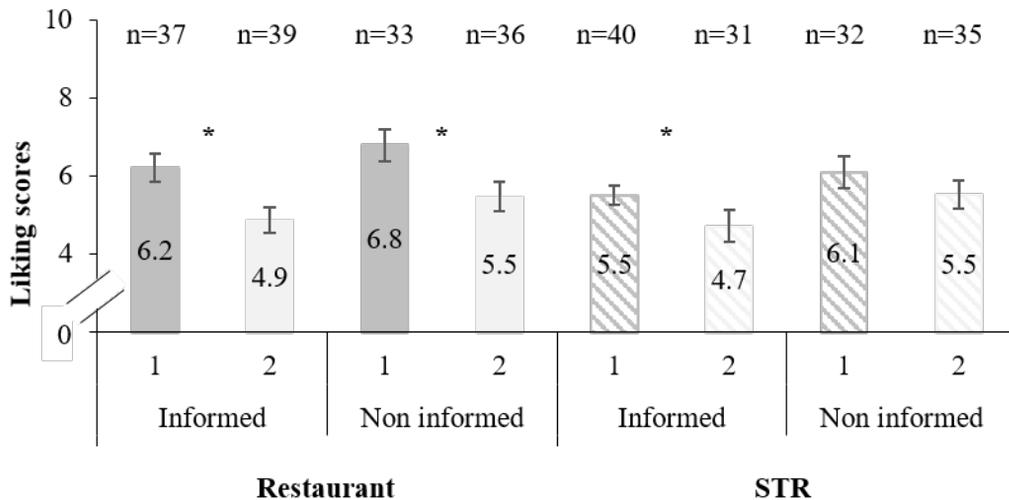


Figure 4

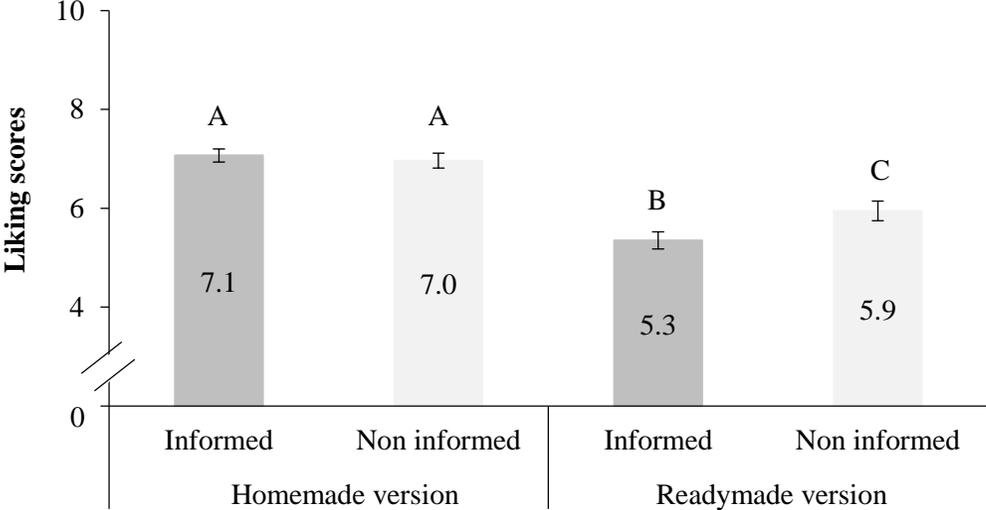


Figure 5

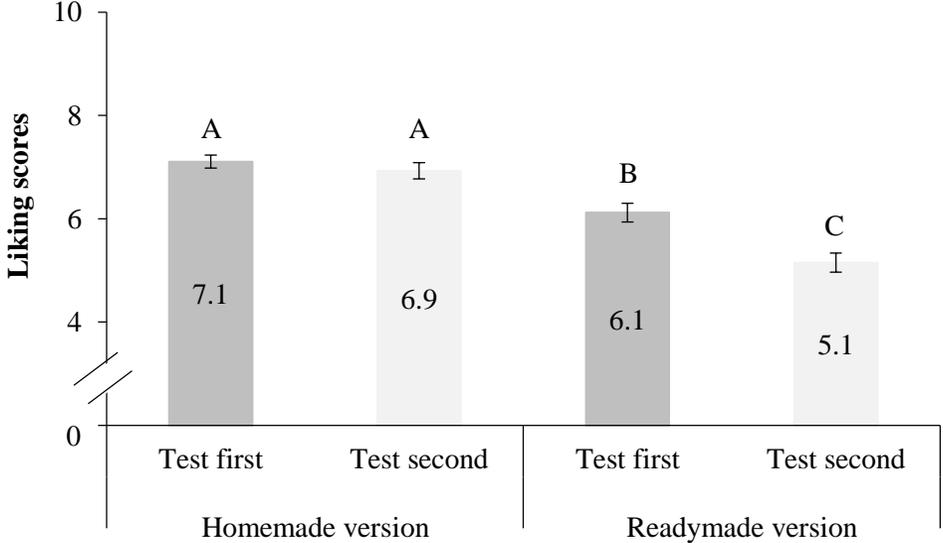


Figure 6

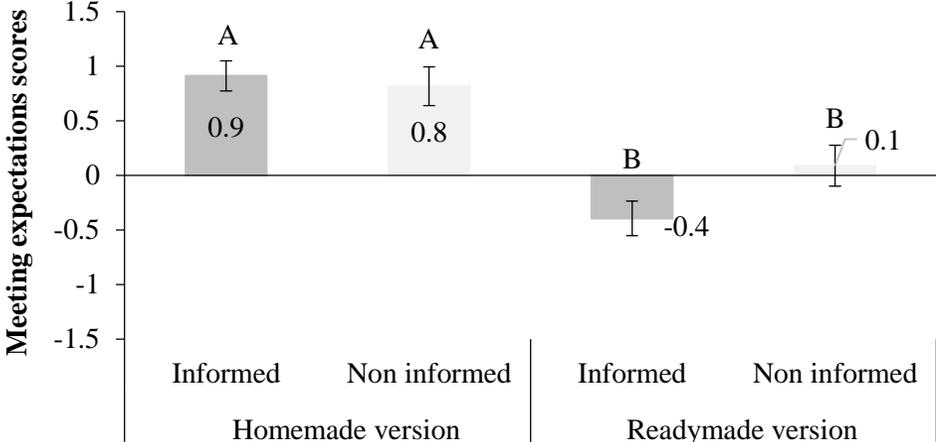


Figure 7

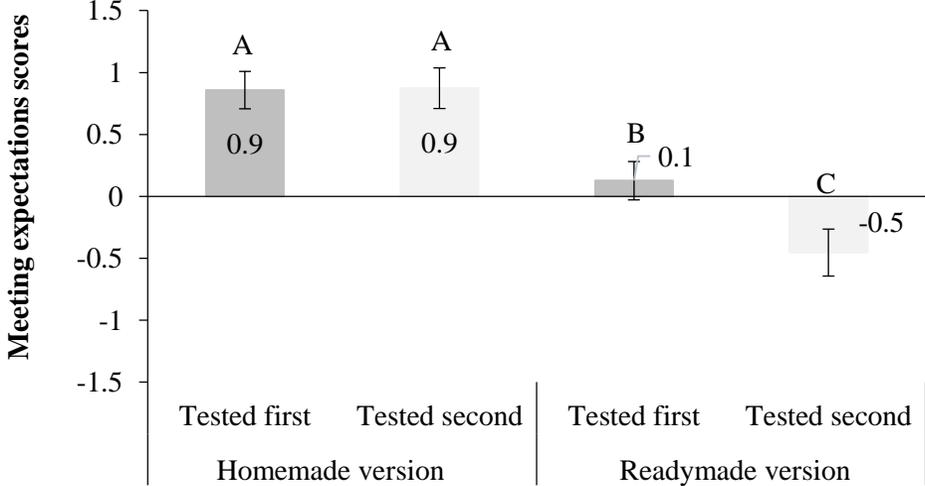


Figure 8

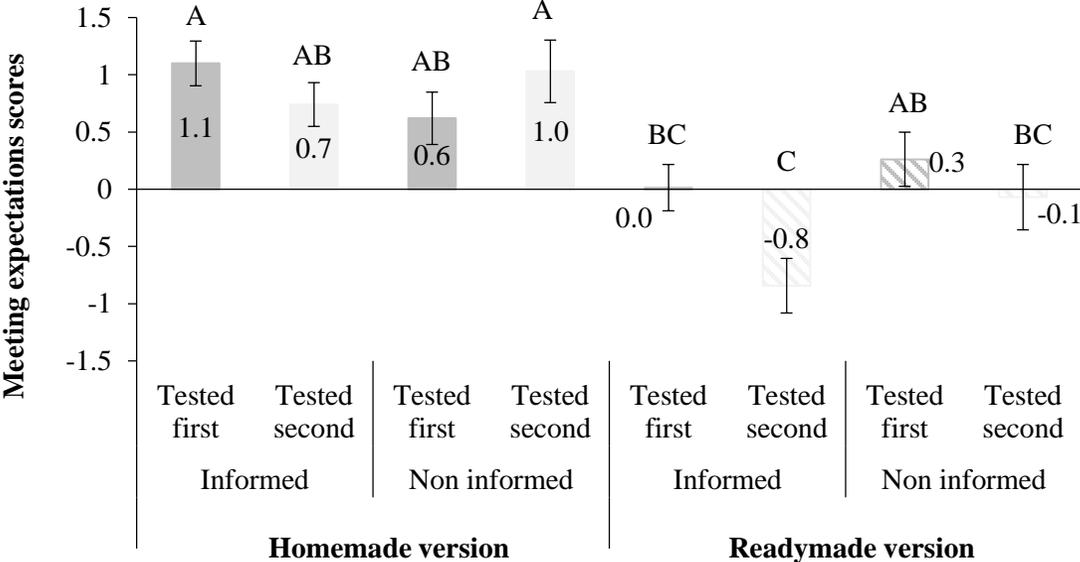


Figure 9

