Journal of Economic Psychology 12 (1991) 325–355
North-Holland

Affective reactions to consumption situations: A pilot investigation *

Christian Derbaix and Michel T. Pham **

Catholic University of Mons, Mons, Belgium

Received May 2, 1990; accepted January 24, 1991

The authors first attempt to clarify the affect terminology. Then, in an empirical study, they explore the affective reactions prompted by a wide range of consumption situations. For each of them, the authors investigate what preceeds, what happens during and what happens after the situation. 1,436 affective experiences, retrieved by 118 subjects in response to the proposed situations, were content-analyzed. The subjects reported more positive than negative affective reactions. These were essentially feelings, followed by evaluative affects. Very few extreme affective reactions were recollected. A greater variety of negative than positive affective reactions was reported.

The clearest associations between consumption situations and affective reactions were: after vacation with nostalgia/sadness; voting with lack of concern; during a meal in a restaurant with cheerfulness or with bother; after a hobby purchase with positive excitement, shopping with irritation, and taking exams with scare. Throughout the paper, special attention was paid to gender differences.

1. Introduction: The affective side of consumption

Both economic and cognitive views of consumer behavior depict consumers as trying to maximize their utility through tangible attributes. For the last ten years, researchers have advocated the extension

* A preliminary version of this paper was presented at the workshop on 'Consumer behavior: Extending the cognitive structure perspective', European Institute for Advanced Studies in Management, Brussels, November 27–28, 1989.

** M.T. Pham is presently a CIM Fellow and was, at the time of the study, a Research Assistant at the Marketing Department, Catholic University of Mons, (FUCAM-Belgium).

Requests for reprints should be sent to Ch. Derbaix, Marketing Department, Catholic University of Mons (FUCAM-Belgium), Chaussée de Binche 151, 7000 Mons, Belgium.

of these traditional views especially by integrating the affective components of consumption experiences (Holbrook and Hirschman 1982; Zajonc and Markus 1982; Holbrook 1986; Batra and Ray 1986; Holbrook and Batra 1987). Indeed, in some circumstances, consumers are looking for emotional benefits rather than utilitarian performance. These researchers have consequently questioned the paradigm underlying economic and cognitive models and emphasized the role of affect by distinguishing *instrumental* from *congenial* consumer behavior. *Instrumental* consumer behavior (Alderson 1957) refers to the 'economic' view of consumption; for instance, an individual buys a Mercedes because of its transportation capacity, its powerful brakes and its high resale value. *Congenial* behavior refers to hedonic experiences; for instance, another person buys the same car for conspicuous purposes (i.e., to seduce) or for the pleasure of feeling superior (Havlena and Holbrook 1986). In many consumption situations, both kinds of benefits – instrumental (resulting from the satisfaction of basic needs) and emotional (deriving from the 'congenial' or 'hedonic' side of the same situation) – may affect choices. Affective reactions *deserve specific study* since they may be as essential as cognitive processes to fully understand consumer behavior (Batra 1986; Derbaix 1987, 1988). Adopting a 'consuming view' rather than a more restrictive 'buying view' is recommended when investigating the experiential components of consumer behavior (Holbrook 1986: 21). Purchasing decisions constitute only a portion of the total consumption experience.

Since Belk (1975), an equally substantial literature has emphasized the importance of situational variables to better understand consumer behavior. Yet, this literature has mainly dealt with behavioral acts rather than affective reactions (see, for instance, Bonner (1985) for a review). The purpose of this paper is, therefore, to integrate these two streams of research by exploring the types of affective reactions prompted by specific consumption situations.

Marketing, especially the literature dealing with family and household influences (see the special issue of *Recherche et Applications en Marketing*, 1990, vol. 5, no. 3), has often suggested sex as a key segmentation variable (e.g., Kotler 1988; Prakash and Flores 1985). However, sex was more often considered at the behavioral (purchase) level than at the affective level. On the other hand, the cognitive and affective sides of sex differences have been regularly stressed in psychology (e.g., Maccoby and Jacklin 1974). Therefore, this study will

also explore gender differences in the affective reactions elicited by the selected situations.

In section 2 a typology clarifying the affect terminology is presented. Section 3 briefly reviews the psychological literature on sex differences. An empirical study of affective reactions to consumption situations is then detailed. Four aspects of the affective reactions are analyzed for the whole sample: their types, their polarity, their quantity, and the situations to which they are clearly associated. These analyses were also performed with a special consideration to sex differences.

2. A typology of affective reactions

Despite established typologies of emotions (Frijda 1970; Izard 1977; Plutchik 1980) clear distinctions among the different types of affect are scarce in consumer behavior. This is illustrated by the following example: '...moods are a subcategory of feeling states. The term "feeling state" will be used to refer to an affective state that is general and pervasive. ...These states can be contrasted with feelings directed toward specific objects, e.g., the affective component of brand attitude' (Gardner 1985: 282). Moreover, such definitions provide no hint for operationalization because they neglect the underlying properties of the affective reactions.

In response to this existing confusion, Pieters and Van Raaij recently distinguished moods, emotions, and personality characteristics from evaluative affects called 'attitude, evaluation *or* preference' (1988: 253). They characterized moods, emotions, and affective personality characteristics (e.g., optimism) along four dimensions: antecedents, intensity, duration, and specificity. We extend their typology by introducing feelings as a distinct type of affect and by distinguishing between preferences, attitudes and appreciations. Additional characteristics are incorporated to sharpen the differences between these types of affect and to facilitate their operationalization. These characteristics are: frequency of somatic experiences and expressions, intention to dissimulate, facility to deceive, probability of elementary subjective experiences, and frequency of subsequent cognitive processes (see table 1).

Affective reactions can be distinguished with respect to the specificity of their original stimulus or target object (Pieters and Van Raaij

1988; Gardner 1985). Feelings and emotions are caused by specific stimuli. Surprise, an emotion, may for instance be caused by the exceptionally low price of an item or by an unexpected gift; pride, a feeling, may result from the purchase of a luxury car. On the other hand, preference, attitude and appreciation, that used to be classical topics in consumer behavior research, are typically directed toward specific objects (e.g., a product, a brand, and more recently an advertisement). A consumer may prefer a brand of sweets, have a favorable attitude *toward* a political party, appreciate the design of a car. Moods are less target- and stimulus-specific: people *are* in a bad/good mood (Pieters and Van Raaij 1988).

Affective reactions can also be classified with respect to their intensity. Emotions notably differ from feelings by their extreme, explosive nature (Pradines 1958). They are tied to a high level of arousal of the endocrine and autonomic systems. People attending a soccer match may experience an 'explosion' of joy in response to a winning goal. Such an affective reaction is more intense than the feeling of satisfaction that other supporters of the winning team may experience when commenting the outcome of the match. Preferences are generally of moderate intensity, although this depends on the targets (i.e. preferring one's favorite pet vs. a brand of eraser).

Duration is a third property of the affective reactions. Jealousy, a feeling, notably differs from emotions by its longer duration. Emotions like surprise and disgust are indeed so brief that some authors have considered them reflexes (Kemper 1987). According to Pieters and Van Raaij (1988: 254), personality characteristics, such as optimism or pessimism, are the type of affective states that have the longest duration. However, they are not considered here precisely because they are *states* rather than *reactions*.

The frequency of somatic and autonomic experiences is clearly correlated with the intensity of the affective reaction. The term experience here refers to the objective occurrence of an affective phenomenon. Such experiences are relatively scarce in attitudes and appreciations but are always present in emotions. The difference between the experience of an affective reaction and its *expression* is worth bringing to mind. This difference mainly stems from display rules of symbolic nature. These rules are cultural expectations about the management of emotion display (Ekman and Friesen 1975). The deliberate alteration of the affective expression as a result of display rules is called 'deception'

Table 1
A typology of affective reactions. (Adapted from Derbaix and Pham 1989.)

Characteristics	Emotion Examples: Surprise, fright, joy	Feeling Pride, jealousy, satisfaction	Mood Cheerfulness, melancholy	Preference Ranking of brands, products	Attitude Predisposition, opinion	Appreciation Evaluation of alternatives
Target or stimulus	Stimulus specific	Stimulus specific	Target and stimulus non specific	Target specific	Target specific	Target specific
Somatic (and autonomic) intensity	Strong	Moderate	Weak to moderate	Moderate (function of the targets)	Weak	Weak
Duration	Brief to very brief	Moderate to long	Moderate	Moderate to long long	Moderate to long	Brief
Frequency of somatic (and autonomic) experiences	Always	Sometimes to often	Sometimes to often	Sometimes	Seldom	Seldom
Frequency of somatic expressions	Often	Function of display rules	Function of display rules	Sometimes	Seldom	Seldom
Intention to dissimulate (deception)	May be strong due to display rules	May be strong due to display rules	May be strong due to to display rules	May be strong with respect to the targets	May be strong	May be strong
Facility to deceive (ease to control the expression)	Low	Rather low due to the duration and/or the intensity [a]	Rather low due to the duration and/or the intensity [a]	May be low if the target is important	High	High
Probability of elementary subjective experience	High	Rather high	Rather low	High	Moderate	High
Amount of cognitive antecedents (cognitive mediation)	Small to very small	Large	Moderate	Small to moderate	Large	Very large
Frequency of subsequent cognitive processes	Sometimes to often	Often [b]	Often [b]	Often	Often and important in case of cognitive dissonance	Often and related to the cognitive antecedents

[a] The longer the affective reaction, the more difficult it is to control its expression.
[b] The subsequent information processing can be altered. Positive halo effects on specific attributes may be expected from people experiencing positive feelings and moods and negative halo from people experiencing negative ones.

(Buck 1984). For instance, an individual having a meal in a first-class restaurant may be badly surprised by the bill but may nevertheless attempt to disguise his or her emotion because of the social setting (e.g., he or she is having dinner with his or her family-in-law).

Understandingly, both the intention and the facility to control (to alter) the affective expression differ according to the type of affective reaction. For example, one may intend to dissimulate one's fright when in a scenic railway. However, because of the 'explosive' character of this emotion, such a control is much more difficult than the control of, for instance, an appreciation.

We define the probability of elementary *subjective* experience as the probability that a subject becomes aware of his/her affective state without anybody's help. This probability is generally high for emotions (Gardner 1985), preferences ('the act of liking one above another'), and appreciations ('judgments about the value'). People are generally aware of appreciating or preferring a brand. In contrast, the mediation of another person is more often necessary to become aware of one's mood and, to a lesser extent, one's attitude (Pieters and Van Raaij 1988: 254). People may not be conscious of being in a bad mood or having a favorable attitude (e.g., being positively biased) unless they are made aware by someone else.

The amount of cognitive antecedents (cognitive mediation) of the different affective reactions are characterized in accord with various studies. Zajonc (1980) clearly pointed out that the amount of cognitive antecedent in 'mere' emotions was very limited. Zajonc and Markus (1982) developped several cases leading to similar conclusions for preferences. On the other hand, Fishbein and Ajzen's (1975) well-known model clearly posits that attitudes are built on the basis of cognitions (beliefs). This is especially true for the utilitarian component of attitudes (Bagozzi et al. 1979) and holds also for appreciations. As suggested by Pieters and Van Raaij (1988), the amount of cognitive mediation in moods is moderate. Feelings, in the sense of sentiment (pride, jealousy, satisfaction,...), imply some cognitive appraisal (evaluation) of a stimulus. People are satisfied, proud, jealous because of... The amount of cognitive antecedents in these feelings is thus large. Finally, subsequent cognitive processes are frequent in most affective reactions. As underlined by Isen et al., even 'subtle or mild' affective reactions can have 'pervasive effects on social interaction and cognitive processes' (1982: 244) Such subsequent cognitive processes

may for instance occur in the form of rationalization and justification by consumers.

3. Sex differences in affective reactions

In our review, we failed to find marketing studies stressing sex differences in *affective* reactions to consumption situations. This explains the *exploratory* character of our hypotheses, mainly derived from the psychological literature – where specific consumption situations are seldom considered.

Empirical studies of gender differences in emotional experiences have often emphasized symptomatical sex differences. Nolen-Hoeksema (1987), for instance, observed that women seem to report greater affective disorder such as depression than men do. Similarly, in a study among outpatients, McNair et al. (1981) found that females scored higher than males on factors measuring tension, depression, fatigue and confusion. Boyle (1989) noticed that females displayed higher depression, regression and fatigue, but lower arousal. It is thus commonly accepted that females generally assent more readily to *negative affective states than males do*. We thus expect *females to report more negative affective reactions (irrespective of their type) than males (H1).*

In the above-mentioned studies females clearly showed more negative affective states. However, Wood et al. (1989) pointed out that there was a greater percentage of women than of men reporting extremely high levels of well-being. According to these authors, this suggests that women tend to endorse more extreme responses 'on both positive and negative dimensions' (p. 358). Therefore, we hypothesize that *females will report more extreme affective reactions, i.e. emotions (irrespective of their polarity), than males (H2).*

In a large cross-cultural study (Scherer et al. 1986), women were observed as *more emotionally expressive than men*. Cosnier et al. (1986) found a much higher proportion of verbally externalizing females (53%) than of males (27%). Furthermore, the study of Wallbott et al. (1986: 110) indicates that females' higher tendency to externalize emotions verbally, also holds for non-verbal expressions. Differences in the *experience* and *expression* of affective states may be explained by males' and females' *social or gender* roles. As put by Wood et al. (1989: 250), 'the roles typically filled by men and women in our society differ

importantly in terms of emotional experiences'. Given their respective roles in the home and in employment settings, males are less likely to emphasize emotional experiences than females. In the gender stereotypes, women are thus 'attributed both greater emotional expressiveness and greater sensitivity to external events'. Several social explanations can account for gender differences in affective experience and for females' larger quantity and variety of emotional expressions. Wallbott et al. (1986) notably observed that males reported more unspecified sensations than females. This may have two reasons. First, males are less introspective in terms of experienced reactions or less accurate in terms of self-perception. Women would have a better awareness of internal emotional states because of role-related experiences that are likely to have conferred them higher sensitivity skills (Wood et al. 1989). Second, display rules (Ekman and Friesen 1975) may act stronger on males and may prevent them from describing in detail their affective reactions (Wallbott et al. 1986). This socially-induced screening tends to reduce the shades of men's emotional expression. In contrast, women could have a better attitude toward emotional expressiveness (Bradburn 1969). The former social 'mechanism' essentially concerns the ability of subjects to experience emotions whereas the latter concerns their willingness to express them. Consequently, we propose two additional hypotheses. *The average quantity of affective reactions reported by females will be larger than the one reported by males (H3). The average range of ARR by females will be larger than the one reported by males (H4).* This range will be operationalized as the numerical variety of affective responses given by an individual irrespective of the intensity of these responses (Sommers 1981).

4. Method

4.1. Subjects

It is worth reminding that sex was the only background factor (other factors being e.g., professional occupation, age, and education) for which the interaction with the variables under study (affective reactions to consumption situations) was somewhat predictable. When such interactions are unknown to the researcher, it is preferable to keep the background factors constant than to allow them to vary in an uncon-

trolled fashion (Calder et al. 1981, 1983; Lynch 1982). This argues for samples of subjects that are homogeneous except on the factor whose interaction with the variable under concern can be predicted from previous studies. Therefore, in our *pilot* study, we opted for a sample of homogeneous subjects (students) varying essentially on the gender dimension. Moreover, the choice of the stimuli (see below) was mainly influenced by past literature that also used students as subjects. Mutual relevance between the stimuli and the subjects justifies that this research was also undertaken with a convenience sample of students. The data were thus collected among 120 undergraduates at a Western European Business School (53 females and 67 males).

4.2. Stimuli

Seventeen situations were selected, keeping in mind a broad definition of consumption. Most of them were suggested by past literature. Belk (1975) summarized seven situational inventories containing the following situations: go shopping for clothes, watch television, visit a friend, party for friends, at a restaurant with friends, during a meal, going on a automobile trip, drinking beverages. In addition to these classical consumption circumstances, two specific situations were retained: voting and taking exams. [1]

The seventeen situations were built into a questionnaire. Most of them were designed to prompt affective reactions with respect to three periods: before, during and after the situations. Examples of the proposed stimuli are 'while trying on clothes, during a meal in a restaurant, after a hobby purchase, while driving a car, thinking back of one's vacation, before going to the doctor's'. The questionnaire was pretested on a small sample of the target population and improved consequently.

4.3. Procedure

One hundred and twenty subjects responded *anonymously* to the questionnaire during a fifty-minute classroom session. We believe that

[1] An anonymous rewiewer has pointed out that these situations are not generally considered consumption situations. His/her point is fully acknowledged. However, these situations were kept here because they pertain to the habitual surroundings of our population, and were clearly opposed on the involvement continuum of our sample as revealed by prior unstructured interviews.

the anonymous feature of this data collection encouraged more spontaneous responses. The subjects were instructed to depict precisely the situation (in terms of space, time, physical, social surroundings, and task definitions (Belk 1975: 159))simultaneously with their affective reactions within each stimulus situation. Subjects were thus given room for idiosyncratic descriptions. This free-response procedure was chosen bearing in mind the impossible challenge faced by the researcher who attempts to symbolically communicate the situation (Wicker 1975). Asking subjects to specify the situation themselves, enabled to study more 'actual' than 'purely symbolic' presentations. This led to the final lists of consumption situations and affective reactions displayed in tables 4 and 5.

4.4. Content analysis

The content analysis was performed twice: first by the authors separately, second by the authors together. This required more than 300 hours and yielded 1,436 units of analysis. During the first analysis, the convergence of judgment was higher than 0.90. Conflicts were resolved through discussions. The test-retest reliability between the two analyses, performed with a 3-month interval, also exceeded 0.90. Large categories were avoided because of the objectives to explore the complete gamut of affective reactions and to preserve the very fine-grained nature of some verbal accounts. During the second content analysis, a repertory grid was used to register: the number of affective reactions reported by each respondent, their variety, their type, their polarity, and the number of situations that elicited them. [2]

The following types of affective reactions were coded:
- affect words, i.e. substantives of affective reactions (happiness, sadness, shame, regret,...);
- expressions in which 'mood', 'feel' or 'emotion' was paired with a positive, neutral, or negative evaluation: 'I had a feeling of well-being', 'of freedom', 'I was in a bad mood', 'I had a feeling of superiority', 'I had a feeling of having been cheated';
- and statements with, sometimes colorful, descriptions from which it was easy to infer an affective reaction: 'after the announcement of

[2] Some coding rules were designed and strictly respected (see appendix).

the results of my exams, *I felt transported to another world', 'I had butterflies in my stomach'.*

To the extent that the units of analysis were recollected verbal accounts of affective reactions, the limitations of this procedure must be reminded. First, the respondents may have, unintentionally or deliberately, misrepresented their affective reactions. Second, they may have been unable to verbalize, or even to retrieve, the essential aspects of these affective reactions.

Despite these real limitations, verbal reports remain nevertheless the only available tool to study the entire range of the subjective experienced affective reactions. Besides, physiological methods for the measurement of affect can capture the intensity, sometimes the polarity (cf. Caccioppo et al. 1986), but never the content of the affective reactions. As emphasized by Holbrook (1986: 23) 'there appears to be no unique correspondence between particular physiological states and different subjective emotions'. Other methods, like Ekman and Friesen's F.A.C.S. (1978), show some promise for the study of the content. But they generally operate with very limited samples and are very demanding in terms of the availability of experts and time to code the data. Finally, as stressed by Scherer and Tannenbaum (1986: 297), 'self-reported emotional experience is theoretically important in its own right because it allows an assessment of the subjective representation of the emotion-eliciting event and the individual's reaction'.

5. Results

5.1. General results

The results presented in this section do not consider the specific situations that have elicited the affective reactions. Although these affective reactions are precised according to their types (emotions, feelings,...) in table 2, they are not further detailed (e.g., surprise, pride, cheerfulness,...). Preference, attitude and appreciation, the three target-specific, and most 'cognitive', affective reactions are gathered under the label 'Evaluative Affects'.

Table 2
Types of recollected affective reactions.

	Mean values			Total	Different
	Positive	Neutral	Negative		
Emotions	0.873	0.008	1.797	2.678	1.975
Feelings	3.263	0.051	2.407	5.721	3.949
Moods	1.686	0.220	0.339	2.246	1.517
Evaluative affects	1.695	0.797	1.364	3.856	2.949
(Preference)	(0.568)	(0.000)	(0.119)	(0.686)	(0.508)
(Attitude)	(0.475)	(0.797)	(1.229)	(2.500)	(2.051)
(Appreciation)	(0.653)	(0.000)	(0.017)	(0.669)	(0.390)
Total	7.517	1.076	5.907	14.500	–
Different (total)	4.797	0.873	4.720	–	10.390

Note: Scores represent the average number of each type of recollected affective reactions distributed according to their polarity ($n = 118$).

On average, 118 respondents (52 females and 66 males) [3] have associated at least one affective reaction to 12.17 situations. They have reported a mean number of 14.5 affective reactions, of which 10.39 were different (see table 2). It can be observed (table 2, fourth column) that the subjects essentially reported feelings ($\bar{x} = 5.721$). Evaluative affects ranked second ($\bar{x} = 3.856$), mainly consisting of attitudes ($\bar{x} = 2.500$). The average number of moods and emotions were not significantly different ($p > 0.11$). The subjects 'retrieved' and reported more positive ($\bar{x} = 7.517$) than negative ($\bar{x} = 5.907$) affective reactions ($p < 0.001$). Neutral affective reactions (e.g., indifference, hesitation) were far less frequent ($\bar{x} = 1.076$).

5.2. *Test of hypotheses on sex differences*

Although the number of positive affective reactions do not differ significantly between males and females (two-tailed, $p > 0.53$, see table 3), the latter reported more negative affective reactions than males ($t = 1.75$, $p < 0.042$). This supports H1. Irrespective of the polarity of the emotions, the data do not support H2; females did not report more emotions than males. Although females acknowledged slightly more negative emotion (scare, anxiety), males described significantly more

[3] Two subjects did not complete the questionnaire.

positive ones (joy, pleasure). The average quantity of affective reactions reported by females (H3) is only marginally larger ($p < 0.078$) than the one reported by males.

From table 3, it can be observed that the *variety* of affective responses given by females was slightly larger than the one displayed by males (11.019 vs. 9.894, $p < 0.10$). This supports only marginally our fourth hypothesis. It could also be noted that: (1) feelings are by far the type of affective reactions most often encountered in both subsamples; (2) females reported more moods, especially positive ones (cheerfulness, relaxation); and (3) females described more evaluative affects, especially negative ones (dislike, being afraid of giving a bad appearance of oneself).

5.3. Specific results

In this section the specific types of affective reactions as well as the specific situations are considered. The analyses are performed either for the entire set of subjects or for males and females separately.

5.3.1. Analysis of the situations

The subjects distinguished 70 different consumption situations (hereafter CS). The power of affective reactions elicitation of each of these situations (the stimuli) was examined. A ranking of the different situations on the basis of the frequencies of the affective reactions is displayed in table 4. The most affective reactions reported (hereafter ARR) were associated with 'having a meal in a restaurant or in a pizzeria' ($f = 81$), followed by 'doing one's shopping' ($f = 80$), 'preparing one's exams' ($f = 73$) and 'driving a car' ($f = 66$). That does not mean, of course, that these situations were the most appreciated.

Similar rankings were computed for the two gender groups and correlated. [4] The rankings of the situations by both groups are rather comparable ($rs = 0.85$, $t = 13.30$, $df = 68$, $p < 0.001$). *The selected situations were thus rather similar in terms of ARR elicitation in the two groups*. However, some discrepancies appeared. The most significant ones are indicated by an F ('female-rather-than-male' CS) or an M ('male-rather-than-female' CS). For instance, driving a car ranked third among males in terms of ARR elicitation and seventh among females. Conversely, after the purchase of clothes prompted relatively more

[4] The Spearman-rank correlation was corrected for ties (Siegel and Castellan 1988: 239).

Table 3
Mean values of recollected affective reactions: Males vs. females.

	Positive		Neutral		Negative		Total		Different	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Emotions	1.106 [a]	0.577	0.015	0.000	1.606	2.038 [c]	2.727	2.615	1.894	2.077
Feelings	3.182	3.365	0.076	0.019	2.273	2.577	5.531	5.962	3.894	4.019
Moods	1.394	2.058 [b]	0.182	0.269	0.318	0.365	1.894	2.692 [b]	1.364	1.711 [c]
Evaluative affects	1.576	1.846	0.727	0.885	1.167	1.615 [b]	3.470	4.346 [b]	2.742	3.211 [c]
Total	7.258	7.846	1.000	1.173	5.364	6.596 [b]	13.621	15.615 [c]	–	–
Different	4.667	4.961	0.833	0.923	4.394	5.135 [c]	–	–	9.894	11.019 [c]

[a] *one-tailed probability less than 0.01;*
[b] one-tailed probability less than 0.05;
[c] one-tailed probability less than 0.10.

ARR among females than among males. This is consistent with common sense.

5.3.2. Analysis of the affective reactions

Eighty-four different affective reactions were reported by the whole set of subjects, 71 by females and 79 by males (see table 5). Forty-seven affective reactions were *negative* (indicated by a minus in the table), *29 positive* and 8 neutral. Although more positive affective reactions were reported, there was a *higher variety of negative affective reactions.* Seventeen different emotions were coded (scare, bad surprise, anger, joy, delight,...), 35 feelings (satisfaction, eagerness, disappointment, pride, shame,...), 8 moods (cheerfulness, relaxation, melancholy, bad temper,...), and 24 evaluative affects (appreciation, to dislike, hesitation,... indifference, to detest,...). Many affective reactions were mentioned only once or twice (e.g., pity, indignation, hate).

The most frequently reported affective reaction is 'satisfaction/to be content/to be happy' ($f = 171$), followed by 'positive excitement/eagerness/enthusiasm' ($f = 94$), 'cheerfulness/good mood/good temper' ($f = 89$), 'joy' ($f = 74$), and 'appreciation/to like' ($f = 73$).

The rankings of the affective reactions reported by the two gender groups are strongly correlated ($rs = 0.818$, $t = 12.906$, $df = 82$, $p < 0.001$). There are still a few important discrepancies. Typical 'female-rather-than-male' (F) and 'male-rather-than-female' (M) affective reactions can be identified. These discrepancies, except 'joy', concern affective reactions that are not in the 'top 10' of both females' and males' rankings. *Hesitation, bad temper, or aversion seem to be more present in females' consumption experiences* than in males'. *Joy, pleasure or feeling of uselessness/scepticism seem to be more frequent in males' experiences.* Yet, one should remember that feelings such as satisfaction, eagerness and moods like cheerfulness still prevail in both groups' consumption experiences.

5.3.3. Associations between ARR and consumption situations

Private answers were collected in a free-response format. [5] Respondents had to describe affective reactions experienced in the proposed

[5] From a content analytic standpoint, it would have been easier to take the reverse procedure (i.e. to propose affective reactions as stimuli and to ask for precise descriptions of CS in which the ARR had been experienced). Respondents have indeed less difficulties in verbalizing CS than ARR. Content analysis of consumption situations is also easier than of affective reactions.

Table 4
Consumption situations – Frequencies and rankings.

Consumption situations	Global freq.	Males		Females		Discrp. [a]	Sex specificity
		Freq.	Rank	Freq.	Rank		
1. During meal in a restaurant/ pizzeria	81	48	1.0	33	3	−2.0	
2. Shopping	80	38	2.0	42	2.0	0.0	
3. While preparing for one's exams	73	30	5.0	43	1.0	4.0	F
4. Driving a car	66	37	3.0	29	7.0	−4.0	N
5. Cooking	60	29	6.0	31	5.0	1.0	
6. During the purchase of clothes	59	36	4.0	23	13.5	−9.5	M
7. While taking an examination	58	28	8.0	30	6.0	2.0	
8. After the purchase of clothes	56	24	14.5	32	4.0	10.5	F
9. While practicing sports	55	28	8.0	27	10.0	−2.0	
10. During spare-time activities at home (TV, reading,...)	53	28	8.0	25	11.0	−3.0	
11. While trying on clothes	50	22	17.0	28	8.5	8.5	F
12. Before the purchase of clothes	50	26	10.5	24	12.0	−1.5	
13. Preparing one's vacation	44	16	26.5	28	8.5	18.0	F
14. Being entertained at friends'	44	25	12.5	19	17.0	−4.5	
15. Listening to the announcement of the exams results	41	18	22.0	23	13.5	8.5	
16. During leisure or spare-time activities outside (movies, theater,...)	40	24	14.5	16	22.0	−7.5	
17. While watching sports on TV	39	25	12.5	14	25.0	−12.5	M
18. While eating sth	39	22	17.0	17	20.0	−3.0	
19. After a hobby purchase	37	26	10.5	11	31.0	−20.5	M
20. Having a drink with friends outside	36	19	20.0	17	20.0	0.0	
21. After other important purchases	36	17	24.5	19	17.0	7.5	
22. Thinking back of one's vacation	35	15	29.0	20	15.0	14.0	F
23. After having been informed of one's own results	33	20	19.0	13	27.0	−8.0	
24. Entertaining friends	33	22	17.0	11	31.0	−14.0	M
25. Wearing clothes	32	18	22.0	14	25.0	−3.0	
26. While having one's vacation	32	15	29.0	17	20.0	9.0	F
27. While voting	30	18	22.0	12	28.5	−6.5	
28. Using the public services (mail, public telephone service,...)	29	14	31.5	15	23.0	8.5	
29. After having been to the hairdresser's/to the beauty parlor	28	9	40.5	19	17.0	23.5	F
30. After having voted	25	16	26.5	9	36.0	−9.5	
31. Before going to vote	23	12	35.5	11	31.0	4.5	
32. After the purchase of sports items	22	13	33.0	9	36.0	−3.0	
33. Using the services of a bank	22	14	31.5	8	41.0	−9.5	
34. After having practiced sports	21	12	35.5	9	36.0	−0.5	
35. While drinking sth.	20	15	29.0	5	54.0	−25.0	M
36. While attending a sports meeting	20	12	35.5	8	41.0	−5.5	

Table 4 (continued)

Consumption situations	Global freq.	Males		Females		Discrp. [a]	Sex specificity
		Freq.	Rank	Freq.	Rank		
37. Listening to the election results	20	17	24.5	3	61.0	−36.5	M
38. Before going to the dentist's/to the doctor's	19	7	45.0	12	28.5	16.5	
39. Riding a motorbike	19	11	38.0	8	41.0	−3.0	
40. In a fast-food	18	12	35.5	6	50.0	−14.5	
41. Riding a bicycle	17	3	56.5	14	25.0	31.5	
42. Just after having taken an examination	17	7	45.0	10	33.5	11.5	
43. Before entering the examination room	17	9	40.5	8	41.0	−0.5	
44. Before going to the hairdresser's/ to the beauty parlor	16	6	50.5	10	33.5	17.0	
45. While being at the dentists/at the doctor's	15	7	45.0	8	41.0	4.0	
46. While going on vacation (while travelling)	15	7	45.0	8	41.0	4.0	
47. During a hobby purchase	15	10	39.0	5	54.0	−15.0	
48. Using public transports	14	6	50.5	8	41.0	9.5	
49. After having been to the dentist's to the doctor's	14	7	45.0	7	46.0	−1.0	
50. On a plane (or on a boat)	13	7	45.0	6	50.0	−5.0	
51. While being at the hairdresser's/ at the beauty parlor	13	6	50.5	7	46.0	4.5	
52. Before a hobby purchase	11	7	45.0	4	57.5	−12.5	
53. Before other important purchase	11	5	53.5	6	50.0	3.5	
54. Before practicing sports	9	4	55.0	5	54.0	1.0	
55. During the purchase of sports items	9	5	53.5	4	57.5	−4.0	
56. After the purchase of a gift	9	2	59.0	7	46.0	13.0	
57. During other important purchase	8	6	50.5	2	63.5	−13.0	
58. During the purchase of a gift	8	2	59.0	6	50.0	9.0	
59. Offering a gift	7	1	63.0	6	50.0	13.0	
60. Before the purchase of sports items	5	3	56.5	2	63.5	−7.0	
61. Before going/choosing a restaurant/ a pizzeria	5	2	59.0	3	61.0	−2.0	
62. After having eaten sth	4	0	69.5	4	57.5	12.0	
63. Before the purchase of a gift	4	0	69.5	4	57.5	12.0	
64. After a meal in a restaurant/a pizzeria	3	0	69.5	3	61.0	8.5	
65. After the purchase of a car	2	1	63.0	1	66.5	−3.5	
66. Before eating sth	2	1	63.0	1	66.5	−3.5	
67. During the purchase of a car	1	1	63.0	0	71.0	−8.0	
68. After having drunk sth.	1	0	69.5	1	66.5	3.0	
69. Before the purchase of a car	1	1	63.0	0	71.0	−8.0	
70. During the purchase of jewels	1	0	69.5	1	66.5	3.0	

[a] Negative discrepancies between the two rankings denote 'male-rather-than-female' CS and conversely for positive discrepancies.

Table 5
Affective reactions reported – Frequencies and rankings.

Emotions, feelings, moods and evaluative affects	Global freq.	Males		Females		Sex specificity [b]
		Freq.	Rank	Freq.	Rank	
1. Satisfaction/being content/ To be happy (F^+) [a]	171	95	1.0	76	1.0	
2. Positive excitement/eagerness/ enthusiasm (F^+)	94	47	3.0	47	3.0	
3. Cheerfulness/good mood/ good temper (M^+)	89	41	4.0	48	2.0	
4. Joy (F^+)	74	51	2.0	23	10.0	M
5. Appreciation/to like/(to find it pleasant) (EA^+)	73	40	5.0	33	7.5	
6. Scare/'having butterflies in the stomach'/anxiety (E^-)	68	29	6.5	39	4.5	
7. Stress/being tense (F^-)	66	27	8.0	39	4.5	
8. Feeling of well-being/feeling of warmth (M^+)	62	29	6.5	33	7.5	
9. Relaxation (M^+)	61	26	9.0	35	6.0	
10. To adore/to love very much (EA^+)	46	18	14.5	28	9.0	
11. Disappointment/frustration/ bitterness (F^-)	44	25	10.0	19	13.5	
12. Affective involvement/to have an outburst of passion for/being fascinated by (EA N)	41	23	11.0	18	16.0	
13. Being worried/apprehension (EA^-)	37	18	14.5	19	13.5	
14. Indifference/lack of concern (EA N)	37	17	17.5	20	12.0	
15. Irritation/losing patience (because it takes too long (E^-)	34	18	14.5	16	18.5	
16. Bad mood/bad temper (M^-)	32	11	31.0	21	11.0	F
17. Hesitation (EA N)	30	12	27.5	18	16.0	F
18. Pride (F^+)	30	17	17.5	13	22.5	
19. Pleasure/delight/shaking with delight (E^+)	30	21	12.0	9	34.5	M
20. To dislike/aversion (EA^-)	28	10	32.0	18	16.0	F
21. Melancholy/nostalgia (MN)	27	13	22.5	14	20.5	
22. Irritation/exasperation (E^-)	26	16	19.0	10	30.5	
23. Lack of enthusiasm/'Not to feel about sth. or doing sth. (EA^-)	25	13	22.5	12	25.5	
24. Relief/comfort/alleviation (F^+)	25	13	22.5	12	25.5	
25. Discontent/dissatisfaction (F^-)	24	12	27.5	12	25.5	
26. Happiness (F^+)	23	13	22.5	10	30.5	
27. Feeling of uselessness/scepticism (EA^-)	22	18	14.5	4	47.0	M
28. Anger/to be angry (E^-)	21	12	27.5	9	34.5	
29. Annoyance/being disgruntled (F^-)	21	12	27.5	9	34.5	
30. Being motivated/being determined to improve (EA^+)	21	12	27.5	9	34.5	

Table 5 (continued)

Emotions, feelings, moods and evaluative affects	Global freq.	Males		Females		Sex specificity [b]
		Freq.	Rank	Freq.	Rank	
31. Negative excitement/overexcitement (E^-)	20	7	41.0	13	22.5	F
32. Afraid of doing wrong/of giving a bad appearance of oneself (EA^-)	20	4	56.0	16	18.5	F
33. Anguish (E^-)	18	6	45.5	12	25.5	
34. To aspire to the relief of sth (i.e., a state of unpleasantness) (F^-)	18	12	27.5	6	41.5	
35. Bother/embarrassment (F^-)	18	14	20.0	4	47.0	
36. Regret (F^-)	18	4	56.0	14	20.5	F
37. Fear (of danger/of an accident) (EA^-)	17	9	34.0	8	38.5	
38. Temptation/envy (EA^+)	16	5	50.5	11	28.0	
39. Confidence/being serene (EA^+)	16	8	37.0	8	38.5	
40. To detest (EA^-)	15	8	37.0	7	38.5	
41. Feeling of freedom/feeling of escapism (F^+)	15	5	50.5	10	30.5	
42. Feeling of responsibility/to feel useful (F^+)	14	9	34.0	5	44.0	
43. Sadness (F^-)	14	4	56.0	10	30.5	
44. Laughing/enjoying oneself (F^+)	12	7	41.0	5	44.0	
45. To be uncomfortable/to be ill at ease (F^-)	11	5	50.5	6	41.5	
46. Boredom/monotony/dullness (F^-)	11	9	34.0	2	54.0	
47. Guilt complex (F^-)	10	5	50.5	5	44.0	
48. Being badly surprised (E^-)	9	8	37.0	1	64.5	
49. Exhilaration/'looking for thrills' (EA N)	9	7	41.0	2	54.0	
50. Discouragement/realizing one's limits (F^-)	9	1	74.0	8	38.5	
51. Feeling of superiority/of power/of domination (F^+)	9	7	41.0	2	54.0	
52. Panic (E^-)	9	6	45.5	3	49.5	
53. Fright (E^-)	9	5	50.5	4	47.0	
54. Doubt (F^-)	8	5	50.5	3	49.5	
55. Cognitive dissonance (F^-)	8	6	45.5	2	54.0	
56. Feeling of having been cheated (F^-)	8	7	41.0	1	64.5	
57. Irritability/agressivity (M^-)	7	6	45.5	1	64.5	
58. Horror/disgust (E^-)	4	4	56.0	0	78.0	
59. Being pleasantly surprised (E^+)	4	3	61.0	1	64.5	
60. Hope (EA^+)	4	3	61.0	1	64.5	
61. Feeling of powerlessness/submissiveness/being disregarded (F^-)	4	4	56.0	0	78.0	
62. Admiration/to wonder (EA^+)	4	3	61.0	1	64.5	
63. Weariness (M^-)	4	2	66.0	2	54.0	

Table 5 (continued)

Emotions, feelings, moods and evaluative affects	Global freq.	Males		Females		Sex specificity [b]
		Freq.	Rank	Freq.	Rank	
64. Feeling independent (F^+)	3	3	61.0	0	78.0	
65. Remorse/repent (F^-)	3	1	74.0	2	54.0	
66. Feeling of communion/fraternity (F N)	3	2	66.0	1	64.5	
67. Desire/obsession (EA N)	3	3	61.0	0	78.0	
68. Patriotism (EA^+)	2	1	74.0	1	64.5	
69. Scorn (EA^-)	2	2	66.0	0	78.0	
70. To feel blue/to be down (M^-)	2	2	66.0	0	78.0	
71. Uneasy feeling/sensation of tightness (F^-)	2	2	66.0	0	78.0	
72. Shame/feeling ridiculous (F^-)	2	1	74.0	1	64.5	
73. Being interested in.../attracted to... (EA^+)	2	1	74.0	1	64.5	
74. Desire to please, to be admired, to be appreciated (EA^+)	2	0	82.0	2	54.0	
75. Hate (F^-)	1	0	82.0	1	64.5	
76. Surprise/amazement (E N)	1	1	74.0	0	78.0	
77. Love at first sight (E^+)	1	1	74.0	0	78.0	
78. Being offended (F^-)	1	1	74.0	0	78.0	
79. Dream/Aspiration (EA^+)	1	1	74.0	0	78.0	
80. Mockery, scoffing (F^-)	1	0	82.0	1	64.5	
81. Pity (F^-)	1	1	74.0	0	78.0	
82. Astonishment/('can't believe it', 'It's amazing!') (E^+)	1	1	74.0	0	78.0	
83. Feeling of loneliness (F^-)	1	0	82.0	1	64.5	
84. Indignation (F^-)	1	0	82.0	1	64.5	

[a] The type of the affective reactions is indicated as follows: E = emotion, F = feeling, M = mood, EA = evaluative affect. The polarity is specified by a sign or an N for Neutral.

[b] The sex specificity was determined on the basis of the discrepancies between males' and females' rankings. M denotes 'male-rather-than-female' AR (example: joy is more frequently reported by males, the discrepancy between the 2 rankings is minus 8). Conversely an F denotes 'female-rather-than-male' AR (example: bad mood/bad temper).

consumption situations. Besides, they were allowed to introduce nuances in these situations. [6]. This led to a quasi-unlimited number of different responses condensed in contingency tables.

[6] For instance, the proposed exam-related CS were (1) preparing them, (2) taking them, and (3) listening to the announcement of the results. A significant number of respondents added two shades: (a) before entering the examination room, and (b) after having been informed of one's own results.

The initial contingency tables were of 5,880 cells (70 CS × 84 ARR) for the entire sample, 4,828 cells (68 CS × 71 ARR) for females, 5,135 cells (65 CS × 79 ARR) for males. They were submitted to correspondence analysis (AFACO, Benzecri and al. 1973; Hoffman and Franke 1986; Greenacre 1984). This descriptive statistical method does not pose stringent measurement requirements and is particularly appropriate to display, in a parsimonious space, associations in nominal data.

A satisfactory solution has to meet the following criteria: (1) sufficient variance ('total inertia' in AFACO) has to be accounted for; (2) the relative contributions to the displaid points (CS or ARR) of at least one of the factors has to be significant. This relative contribution is the part of the variance of a point explained by a factor and can be interpreted as a squared correlation. [7]

Correspondence analyses of the initial contingency tables produced unsatisfactory results because of the huge number of empty cells. Therefore, the tables were reduced as follows: (1) meaningful regroupings of CS with very low frequencies were performed (e.g. 'before a meal in a restaurant/pizzeria' and 'during this meal'; 'after a hobby purchase' and 'after the purchase of sports items'); (2) the same procedure was applied to the ARR, but with more care given the nature of such data and our will to preserve their richness (i.e. 'bother/embarrassment' with 'to be uncomfortable/ill at ease'; 'bad mood/bad temper' with 'irritability').

This procedure was followed under the 'constraint' to preserve as many different CS and ARR as possible given the purpose of our research. In order to reach satisfactory solutions, 5 trials were necessary for the whole sample, 3 for the females, and 5 for the males. Five-factor solutions were retained because the sixth factor had a low eigen value compared to the fifth factor and a poor contribution to the cumulative inertia. These solutions were judged 'parsimonious' relative to the size of the contingency tables.

5.3.4. Associations by the whole sample

The final analysis 'associates' 29 ARR with 28 CS. The total inertia for the first 5 factors is 70.58%. For each factor the associations retained were selected and interpreted on the basis of: the relative

[7] Mathematically, it is the $\cos^2$ of the angle between the point and the factor.

Table 6
Global AFACO: Relative contributions.

	Factors				
	1	2	3	4	5
ARR					
19	0.034	0.011	0.020	0.170	0.034
12	0.027	0.007	0.002	0.580 [a]	0.368
33	0.904 [a]	0.023	0.025	0.001	0.001
4	0.230	0.008	0.196	0.182	0.000
3	0.215	0.036	0.195	0.054	0.003
10	0.160	0.043	0.049	0.146	0.068
8	0.112	0.023	0.117	0.158	0.031
2	0.092	0.009	0.098	0.016	0.348 [a]
1	0.186	0.010	0.128	0.005	0.288 [a]
7	0.910 [a]	0.023	0.028	0.000	0.002
6	0.859 [a]	0.021	0.011	0.001	0.000
21	0.050	0.894 [a]	0.052	0.000	0.000
14	0.001	0.067	0.641 [a]	0.029	0.023
40	0.099	0.020	0.201	0.019	0.080
39	0.168	0.002	0.014	0.003	0.009
29	0.007	0.077	0.307	0.226	0.100
11	0.083	0.024	0.011	0.280 [a]	0.001
20	0.016	0.030	0.202	0.089	0.200
5	0.091	0.075	0.010	0.296	0.234
9	0.030	0.011	0.076	0.083	0.075
15	0.001	0.044	0.187	0.224 [a]	0.155
30	0.448 [a]	0.011	0.015	0.000	0.002
27	0.001	0.049	0.469 [a]	0.051	0.181
42	0.000	0.072	0.528 [a]	0.080	0.028
31	0.504 [a]	0.006	0.006	0.004	0.002
26	0.099	0.003	0.063	0.000	0.005
70 + 43	0.036	0.821 [a]	0.041	0.001	0.001
23	0.005	0.073	0.336 [a]	0.188	0.092
CS					
8	0.107	0.016	0.057	0.035	0.183
25	0.090	0.001	0.054	0.071	0.003
18	0.087	0.045	0.007	0.296	0.074
35	0.029	0.009	0.023	0.161	0.034
1	0.168	0.078	0.049	0.305	0.034
24	0.065	0.022	0.088	0.042	0.005
14	0.151	0.023	0.169	0.037	0.007
20	0.141	0.021	0.126	0.069	0.005
10	0.103	0.003	0.051	0.014	0.128
16	0.131	0.017	0.099	0.454	0.149
47 + 55	0.148	0.020	0.127	0.001	0.244 [a]
19 + 32	0.154	0.013	0.157	0.010	0.385 [a]
34	0.089	0.014	0.101	0.011	0.000

Table 6 (continued)

	Factors				
	1	2	3	4	5
CS					
36	0.033	0.007	0.010	0.549 [a]	0.328
17	0.019	0.016	0.006	0.590 [a]	0.320
2	0.001	0.051	0.209	0.228 [a]	0.184
13+46	0.107	0.001	0.124	0.018	0.205
2	0.109	0.007	0.062	0.032	0.005
22	0.052	0.897 [a]	0.049	0.000	0.000
21+65	0.091	0.007	0.115	0.015	0.306
38+45	0.439 [a]	0.005	0.038	0.000	0.009
3	0.767 [a]	0.018	0.021	0.000	0.002
43+7	0.916 [a]	0.020	0.023	0.000	0.001
15	0.804a	0.021	0.023	0.000	0.000
31	0.001	0.061	0.566 [a]	0.001	0.014
27	0.000	0.083	0.764 [a]	0.002	0.016
30	0.000	0.060	0.598 [a]	0.042	0.136
37	0.010	0.038	0.221 [a]	0.079	0.249 [a]
Cumulative inertia	18.73%	35.38%	50.10%	60.54%	70.58%
Eigen-values	0.838	0.745	0.660	0.467	0.448

Note: For convenience, only the ARR and CS numbers are printed here. Refer to tables 4 and 5 for the complete list of labels.

[a] CS and ARR commented in the text.

contribution of the factor to the point, the absolute contribution of the points to the building of the factor but *not* directly on the basis of the *between-set* distances. In clear, we refrained from interpreting the distances between individual points from each set (CS and ARR) displayed by two-dimensional spaces.

The associations that deserve to be mentioned for the first factor are related to the *examinations situations* and to a lesser extent to 'before going to + [8] during the doctor's/dentist's'. Essentially *negative emotional affective reactions* were linked to these situations ('anguish', 'stress/being tense', 'scare/anxiety', 'overexcitement'). 'Being motivated', the sole positive affective reaction in the cluster, was only related to the exams.

The second factor displays associations between 'thinking back of

[8] '+' indicates that two CS or ARR were merged.

one's vacation' and moods and feelings like 'nostalgia/melancholy', and less obviously with 'to feel blue + sadness'.

The third factor mainly concerns the relation between the voting situations ('before', 'during' and 'after') and feelings of 'indifference/lack of concern' and of 'uselessness/scepticism'. This factor shows the non-involving nature of the voting situations for the sample whereas the first factor illustrates the involving nature of the exams situations (eliciting *strong emotions*).

Three clusters emerge from the fourth factor: (1) 'pleasure/delight' while 'drinking something'; (2) 'affective involvement' while 'attending sports events' or 'watching them on TV'; (3) 'losing one's patience/irritation' while 'shopping convenience goods'.

Finally, the fifth factor mainly displays postpurchase situations ('hobby', 'clothes', and 'important purchase') associated with 'satisfaction' and 'positive excitement/eagerness/enthusiasm'. Similar associations were made to 'preparing one's vacation + going on vacation/travelling'.

5.3.5. Gender-specific associations

Similar correspondence analyses were performed for both subsamples and yielded comparable results. However some gender-specific associations were detected. 'Being motivated' did appear in the exams-related cluster for males but not for females. Like in the whole sample, 'nostalgia' and 'sadness' were associated by girls with 'thinking back of one's vacation'. The latter feeling was not associated by boys.

All the proposed voting situations were associated with 'lack of concern' by both gender groups. Males also associated this 'lack of concern' with a situational shade: 'listening to the election results'. They also recollected 'feeling of uselessness/scepticism' for the voting situations they reacted to. Females clearly retrieved 'loosing one's patience/irritation' when 'shopping convenience goods'. 'Not to feel about', 'to dislike' and 'to appreciate' were also linked to this situation. 'Appreciate' was well associated with 'cooking'. No such clusters were highlighted for males. The associations of 'regret' and 'discontent' to 'after having been to the hairdresser's' were also female-specific. So was the link between 'disappointment' and 'after the purchase of clothes' or 'after an important purchase'. Females, distinctly, experienced 'happiness' and 'musing' when 'being entertained at friends' or 'having a drink with them outside'.

There were male-specific associations between 'feeling of well-being/warmth' and different social settings such as 'entertaining friends', 'being entertained at friends', 'having a drink with them outside', and 'during a meal in a restaurant/pizzeria'. This last setting was also associated with 'bother/embarrassment'. Males reported 'pleasure/delight' 'while drinking something'. Finally, they acknowledged having felt 'regret + cognitive dissonance' after the purchase of clothes.

The first three factors can easily be labelled for females. The first one seems to be explained by *strong emotional reactions*, essentially negative. The second is rather a *'feeling-and-mood'* factor, and the third is a factor of *indifference* and *lack of concern*. The affective load clearly decreases along these three factors. For males, the first two factors appeared in the reverse order. This reflects the fact that the exams situations prompted affective reactions more frequently among females (see table 4).

6. Conclusion and discussion

The respondents reported more positive than negative affective reactions. This has at least three explanations. First, the selected situations – except the exams and going to the dentist's and/or the doctor's – were perhaps more prone to elicit positive affective reactions than negative ones. The subjects may have really experienced more positive affective reactions. Second, display rules may have been particularly acute for negative affective reactions, restraining their acknowledgment. And third, the experiences of unpleasant affective states may have inhibited their learning by decreasing motivation or by interjecting negative thoughts into consciousness, thereby diverting attention from the learning process (Mayer 1986). However, the quantity of negative affective reactions was non-negligible, especially for females. This reminds that both sides of affective reactions are elicited by classical consumption situations, although 'congenial' consumer researchers have essentially investigated the positive side.

Except for the exams, very few extreme affective reactions (e.g., hate, ecstasy, terror,...) were elicited. More private circumstances (divorce, sexual intercourse, death,...) might have induced such extreme emotions.

The total number of different negative affective reactions (47) was higher than its positive counterpart (29). Memory for pleasant affective experiences in consumption situations appears to be less differentiated than for unpleasant experiences. This finding is consistent with the fact that a majority of affective terms have negative connotations (Averill 1980). This may be explained in a functional perspective of emotion: 'a greater variety of response options is needed to cope with potential harm than is needed to cope with potential good... The risks of responding inappropriately to negative events are greater than the risks of responding inappropriately (or not responding at all) to positive events' (Ellsworth and Smith 1988: 302–303).

The correlations between the rankings of both the affective reactions and the consumption situations were very strong. This suggests that the differences between males' and females' affective experiences are less important in consumption situations than a priori expected. However, the homogeneity of the subjects may have softened the discrepancies. As previously stated, stronger gender differences would perhaps have been displayed with more general situations as stimuli or with a more representative sample of subjects.

Some sex differences were nevertheless identified. The average quantity and, to a lesser extent, the average range of affective reactions reported by females were larger than the ones reported by males. Women seem to have more *important* and maybe *more differentiated* emotional experiences. Females reported significantly more negative affective reactions than males. For instance, hesitation, stress, bad temper and aversion are apparently more present in females' consumption experiences. Joy and pleasure appear to be more frequent in males' experiences. This supports previous results of psychological research (Nolen-Hoeksema 1987; Boyle 1989).

The most important implication of this study is that marketing managers should cope more intensively with the affective side of potential customers, before, during, and after the purchase. For instance, during the purchase and whenever the buyer–seller interface is relevant, it is necessary to first detect and manage the affective states, especially when negative. This has to be achieved prior to starting classical persuasive processes, because of possible halo effects. Appropriate design of the buying environment may produce positive affective reactions. Such 'atmospherics' (Kotler 1974) could, therefore, indirectly enhance consumers' evaluations and judgments of products

or services. This is related to the stream of research about the effects of mood on judgments (e.g., Gardner 1985; Isen et al. 1978). Negative emotional affective reactions were linked to two situations: (before) going to the doctor's/dentist's and the exams. Both situations relate to two crucial domains in everyone's life: health and job. These negative affective reactions were mainly reported for '*before*'. As such, they may be defined as neurotic scares or anxieties about some future or anticipated event, distinct from normal fear, which is a direct response to a present threat. Doctors and dentists should therefore concentrate their relieving efforts before the visits, possibly through informative campaigns. *After* the consumption situation, a clear association was highlighted between 'Nostalgia–Thinking back of one's vacation'. Marketing management may implement two types of policies: a preventing one and a taking-advantage-of one. In communication terms, the second policy could be run through appeals like 'Going back to that unforgettable place? Why not?' On the other hand, the preventing strategy can be illustrated by 'Once a year it's nice, more often is fantastic!'.

At least three of females' specific associations have managerial implications. 'Losing one's patience/irritation' was elicited by 'shopping convenience goods'. Careful design of shopping centers in terms of scheduling the optimal number of checkouts for each day of the week, music for eliciting good mood, relaxing colors, information desks,... could relieve these negative affective reactions. Females experienced more often regret and discontent *after* having been to the hairdresser's. Hairdressers should perhaps improve their skills in identifying their clients' wishes and meeting their demands. Translated in marketing terms, this requires service and communication efforts.

Since males are more likely to experience feelings of well-being, but also of bother/embarrassment, in a restaurant/pizzeria, atmospherics as a marketing tool seems particularly relevant for them.

Our conclusions have to be accepted within the usual caveats of this type of research. This study suffers from several limitations to representativeness. It can indeed be argued that neither the subjects nor the situations were randomly sampled from 'true' populations of consumers and of consumption situations. However, this stemed from the exploratory nature of our research. It should be recalled that external validity can hardly be achieved in a single study (Calder et al. 1983). Other relevant factors that we tried to keep constant (e.g., age, profes-

sional status,...) should be addressed in a stepwise fashion in future studies.

Appendix

Coding rules

In the following cases *nothing* was coded as 'affective reaction':

(1) (No description at all.)
(2) Descriptions containing no affective reaction such as 'Before buying clothes I think a lot in order to buy something really different from what I have been wearing for a while'.
(3) Affective reactions:
  (a) completely disconnected from the proposed or correlated situations: 'When going to the poll station it was raining and the road was dangerous,...'
  (b) too general (although expressed in reaction to a specific CS): 'I am an emotional person. I cry very often'.
(4) Impossibility to clearly attribute the description to a well-known affective reaction: 'During my vacation I let things go their own way'.

On the other hand here are some *clear examples* of coded affective reactions:

- 'When I was in the movie theater watching 'the Bear' I *lived* the story and *felt hate* toward this hunter and afterwards *tenderness*' (*affective involvement*);
- Last year when listening to the announcement of the exam results I was *terribly scared* of not hearing my name (being proclaimed passing)' (scare/anxiety);
- 'Last summer before going on vacation in Spain, I was preparing everything 'with *enthusiasm*' (enthusiasm/eagerness);
- 'I have a *horror* of cooking... I miss everything I undertake... However, I *adore* drinking and eating...' (horror/to detest) (to adore/to love very much).

References

Alderson, W., 1957. Marketing behavior and executive action. Homewood, IL: Richard D. Irwin.

Averill, J.R., 1980. 'On the paucity of positive emotions'. In: K.R. Blankstein, P. Pliner and J. Polivy (eds.), Advances in the study of communication and affect: Vol. 6, Assessment and modification of emotional behavior. New York: Plenum. pp. 7–45.

Bagozzi, R.P., A.M. Tybout, C.C. Samuel and B. Sternthal, 1979. The construct validity of the tripartite classification of attitudes. Journal of Marketing Research 16, pp.88–95.

Batra, R., 1986. 'Affective advertising: Role, processes and measurement'. In: R.A. Peterson, W.D. Hoyer and W.R. Wilson (eds.), The role of affect in consumer behavior. Lexington, MA: D.C. Heath. pp. 53–85.

Batra, R. and M.L. Ray, 1986. Affective responses mediating acceptance of advertising'. Journal of Consumer Research 13, 234–249.

Belk, R., 1975. Situational variables and consumer behavior, Journal of Consumer Research 2, 157–164.

Benzecri, J.P. et al., 1973. L'analyse des données (2 vol.), Paris: Dunod.

Bonner, P.G., 1985. 'Considerations for situational research'. In: E. Hirschman and M. Holbrook (eds.), Advances in consumer research. Ann Arbor, MI: Association for Consumer Research. pp.368–373.

Bower, G. and P.R. Cohen, 1982. 'Emotional influences in memory and thinking: Data and theory'. In: M.S. Clark and S.T. Fiske (eds.), Affect and Cognition. Hillsdale, NJ: Erlbaum.

Boyle, G.J., 1989. 'Sex differences in reported mood states'. Person. Individ. Diff. 10, 1179–1183.

Bradburn, N.M., 1969. The structure of psychological well-being. Chicago, IL: Aldine.

Buck, R., 1984. The communication of emotion. New York: The Guilford Press.

Cacioppo, J.T., M. Losch, L. Tassinary, R. Petty, 1986. 'Properties of affect and affect-laden information processing as viewed through the facial response system'. In: R.A. Peterson, W.D. Hoyer and W.R. Wilson (eds.), The role of affect in consumer behavior. Lexington, MA: D.C. Heath. pp.87-118.

Calder, B.J., L.W. Phillips and A.M. Tybout, 1981. Designing research for application'. Journal of Consumer Research, September, 197–207.

Calder, B.J., L.W. Phillips and A.M. Tybout, 1983. The concept of external validity. Journal of Consumer Research, December, 240–244.

Cosnier, J., J.M.F. Dols and A.J. Fernandez, 1986. 'The verbalisation of emotional experiences'. In: K.R. Scherer, H.G. Wallbott and A.B. Summerfied (eds.), Experiencing emotion: A cross-cultural study. Cambridge: Cambridge University Press.

Derbaix, C., 1987. Le comportement de l'acheteur. Voies d'études pour les années à venir. Recherche et Applications en Marketing II, 81–92.

Derbaix, C., 1988. Place de l'affectif dans l'étude des comportements de consommation, Liaisons Fucam, 19–35.

Derbaix, C. and M.T. Pham, 1989. Pour un développement des mesures de l'affectif en marketing: Synthèse des prérequis. Recherche et Applications en Marketing IV (4), 72–87.

Edell, J.A. and M.C. Burke, 1987. The power of feelings in understanding advertising effects. Journal of Consumer Research 14, 421–433.

Ekman, P. and W.V. Friesen, 1975. Unmasking the face. Englewood Cliffs, NJ: Prentice Hall.

Ekman, P. and W.V. Friesen, 1978. Facial action coding system (FACS): A technique for the measurement of facial actions. Palo Alto, CA: Consulting Psychologists Press.

Ellsworth, P.C. and G.A. Smith, 1988. Shades of joy: Patterns of appraisal differentiating pleasant emotions. Cognition and Emotion 2, 301–331.

Fishbein, M. and I. Ajzen, 1975. Belief, attitude, intention and behavior. An introduction to theory and research. Reading, MA: Addison-Wesley.

Frijda, N., 1970. 'Emotion and recognition of emotion'. In: M. Arnold (ed.), Feelings and emotions: The Loyola symposium. New York: Academic Press. pp. 241–250.

Gardner, M.P., 1985. Mood states and consumer behavior a critical review. Journal of Consumer Research 12, 281–300.

Gove, W.R. and J.F. Tudor, 1973. Adult sex roles and mental illness. American Journal of Sociology 78, 812–835.

Greenacre, M.J., 1984. Theory and application of correspondence analysis. London: Academic Press.

Hirschman, E.C. and M.B. Holbrook, 1982. Hedonic consumption: Emerging concepts, methods and propositions. Journal of Marketing 46, 92–101.

Havlena, W.J. and M.B. Holbrook, 1986. The varieties of consumption experience: Comparing two typologies of emotion in consumer behavior. Journal of Consumer Research 13, 394–404.

Hoffman, D.L. and G.R. Franke, 1986. Correspondence analysis: Graphical representation of categorical data in marketing research. Journal of Marketing Research 23, 213–227.

Holbrook, M.B., 1986. 'Emotion in the consumption experience toward a new model of human consumer'. In R.A. Peterson, W.D. Hoyer and W.R. Wilson (eds.), The role of affect in consumer behavior. Lexington, MA: D.C. Heath. pp. 17–52.

Holbrook M.B. and R. Batra, 1987. 'Toward a standardized emotional profile (SEP) useful in measuring responses to the nonverbal components of advertising'. In: Sidney Hecker and David W. Stewart (eds.), Nonverbal communications in advertising. Lexington, MA: D.C. Heath.

Holbrook, M.B. and E.C. Hirschman, 1982. The experiential aspects of consumption: Consumer fantasies, feelings, and fun. Journal of Consumer Research 9, 132–140.

Isen, A.M., M. Clark, T.E. Shalker and L. Karp, 1978. Affect, accessibility of material in memory, and behavior: A cognitive loop? Journal of Personality and Social Psychology 36, 1–12.

Isen, A., B. Means, R. Patrick and G. Nowocki, 1982. 'Some factors influencing decision-making strategy and risk taking. In: M. Clark and S. Fiske (eds.), Affect and cognition. Hillsdale, NJ: Erlbaum. pp. 243–261.

Izard, C.E., 1977. Human emotions. New York: Plenum Press.

Izard, C.E., 1979. Emotions in personality and psychopathology. New York: Plenum Press.

Kassarjian, H.H., 1971. Personality and consumer behavior: A review. Journal of Marketing Research 8, 402–418.

Kemper, T.D., 1987. How many emotions are there? Wedding the social and the autonomic components. American Journal of Sociology 3(2), 263–289.

Kotler, P., 1974. Atmospherics as a marketing tool. Journal of Retailing 58, 34–57.

Kotler, P., 1988. Marketing management (sixth ed.). Englewood Cliffs, NJ: Prentice Hall.

Lynch, J.G., 1982. On the external validity of experiments in consumer Research. Journal of Consumer Research, December, 225–239.

Maccoby, E.E. and C.N. Jacklin, 1974. The psychology of sex differences. Stanford, CA: Stanford University Press.

Mac Innis, D.J. and B.J. Jaworski, 1989. Information processing from advertisements toward an integrative framework. Journal of Marketing 53, 1–23.

Mayer, J.D., 1986. 'How mood influences cognition'. In: N.E. Sharkey (ed.), Advances in cognitive science. Chichester: Ellis Horwood. pp.290–314.

McNair, D.M., M. Lorr and L.F. Droppleman, 1981. Manual for the profile of mood states (POMS). Educational and Industrial Testing Service, San Diego.

Nolen-Hoeksema, S., 1987. Sex differences in unipolar depression: Evidence and theory. Psychological Bulletin 101, 259–282.

Phillips, D.L. and B.E. Segal, 1969. Sexual status and psychiatric symptoms. American Sociological Review 34, 58–72.

Pieters, R.G.M. and W.F. van Raaij, 1988. Functions and management of affect: Applications to economic behavior. Journal of Economic Psychology 9, 251–282.

Plutchik, R., 1980. Emotion: A psychoevolutionary synthesis. New York: Harper and Row.

Pradines, M., 1958. Traité de psychologie, Vol. 1. (6^{e} éd.). Paris: PUF.

Prakash, Ved and R. Ceali Flores, 1985. 'A study of psychological gender differences application for advertising format. In: Elisabeth C. Hirschman and Morris B. Holbrook (eds,), Advances in consumer research, Vol. 12. Provo, UT: Association for Consumer Research. pp. 231–237.

Rook, D.W., 1987. The buying impulse. Journal of Consumer Research 14, 189–199.

Scherer, K.R. and P.H. Tannenbaum, 1986. Emotional experiences in everyday life: A survey approach. Motivation and Emotion 10(4), 294–314.

Scherer, K.R., H.G. Wallbott and A.B. Summerfield, 1986. Experiencing emotion: A cross-cultural study. Cambridge: Cambridge University Press.

Siegel, S. and N.J. Castellan, 1988. Nonparametric statistics for the behavioral sciences (2nd ed.). New York: McGraw-Hill.

Sommers, S., 1981. Emotionality reconsidered: The role of cognition in emotional responsiveness. Journal of Personality and Social Psychology 41, 553–561.

Wallbott, H.G., P. Ricci-Bitti and E. Banninger-Huber, 1986. 'Nonverbal reactions to emotional experiences'. In: K.R. Scherer, H.G. Wallbott and A.B. Summerfied (eds.), Experiencing emotion: A cross-cultural study. Cambridge: Cambridge University Press.

Wicker, A.W., 1975. Commentaries on Belk, 'Situational variables and consumer behavior'. Journal of Consumer Research 2, 165–167.

Wood, W., N. Rhodes and M. Whelan, 1989. Sex differences in positive well-being: A consideration of emotional style and marital status. Psychological Bulletin 106, 249–264.

Zajonc, R.B., 1980. Feeling and thinking: Preferences need no inferences. American Psychologist 35, 151–175.

Zajonc, R.B. and H. Markus, 1982. Affective and cognitive factors in preferences. Journal of Consumer Research 9, 123–131.