

Participation of the Algerian Family Members in the Decision Process of Purchasing Food Products

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Abstract

The study of the family has been the subject of several investigations for many years. Most of the research in this area has focused on the roles of family members in decision-making. In this case, this article proposes a quantitative study devoted to the family decision-making process for the purchase of food products. The purpose of this study is to emphasize the consideration of a family-based decision-making concept. The essential idea on which the hypotheses of the present research are based is to know the cognitive, affective, and conative attitudes of each family member, namely the father, the mother and the children. The results of this study should enable companies (agribusinesses, supermarkets, groceries, etc.) to develop an adequate positioning that can meet the needs of members of the family.

Keywords: Family structure; Decision-making process; Food products; Algerian family.

Introduction

The increased interest shown by many researchers in the family purchase decision-making process is due to the importance of the family in the marketing strategy of any company (Lefkoff –Hagius & Mason; 1993; Sigué & Dhaime, 1998; Riley, 2012; Bessouh and al, 2016). One of the characteristics of the family buying process is the distribution of roles within the family. Researchers have always been interested in this topic in order to identify the family member(s) who makes the purchasing decisions for a given product category. Indeed, seven roles are to be accomplished during the purchase decision-making process, namely the role of initiator, informant, prescriber, decision maker, buyer, user and manager. Consuming presupposes playing several roles, namely inquiring, recommending, choosing, paying, using, etc. In addition, these roles are not necessarily played by the same person. In the case where several members participate in the process, these roles can be shared among the family members (inquiring before purchasing), or they may be taken collectively by all the members (collective use). For any manager, understanding the process of family decision-making consists in identifying the role played by each member of the family. As for the one who has the most *power in decision-making* within the family, it is important to find out who has the most influence on the purchase decision so as to make him the preferred target of communication or marketing(Bessouh & Iznasni; 2016). The present work aims to analyze the behavior of family members for the purchase of food products in the Algerian socio-economic context. The problematic of our research can be postulated in the following way:

How can attitude influence the purchasing behavior of Algerian family members, especially for the purchase of food products?

To study this issue, we relied on a hypothesis that was divided into three sub-hypotheses. Such a vision is necessary because our problem deals with the subject of the buying behavior within the family dyad, i.e. the father, the mother, the children, for the purchase of food products, a subject little studied. The research hypothesis may be stated as follows:

H1: The attitude of one of the family members towards the purchase of food has an impact on his behavior

- **H1.1:** *There is a causal link between the father's attitude and one of the three cognitive, affective and conative behaviors for buying food.*
- **H1.2:** *There is a causal link between the mother's attitude and one of the three cognitive, affective and conative behaviors for the purchase of food.*
- **H1.3:** *There is a causal link between the adolescent's attitude and one of the three cognitive, affective and conative behaviors when buying food.*

The importance of studying the family decision-making in the buying process

Throughout the marketing literature, researchers have repeatedly said that the purchasing behavior of family

members cannot be fully explained by purely individual variables (Davis & Rigaux, 1974; Szybillo, Sosanie and Tenebein, 1979; Belch & Willis, 2002; Webster and Reiss, 2004; Tinson, Nancarrow & Brace; 2008). Because relationships are built between individuals, hence creating groups of references within social classes, such as the family, friends, and co-workers; these may influence the attitudes and buying behaviors of each member of the group. Members of the same group share beliefs, values and norms that can influence their buying behaviors and decisions. In the process of buying within the family, it is important to be able to answer the following questions, i.e. What are the respective roles of the mother, father and children in the different social classes? What kind of influence can they have on the different phases of the buying process, and especially on the final purchase decision? How are these roles determined, and what is the relative influence of each member within the family? What is the type and degree of involvement of each member of the family?

These are some important questions that should be addressed by marketers within the Algerian company. They must adapt their communication, pricing, product and distribution strategies to their actual and potential customers. Belonging to a family and to a specific social class leads the individual to modify some of his behaviors so as not to deviate strongly from the norms, ethics and cultural traditions of the environment to which he belongs. The purchasing behavior within a small group, such as the family, is characterized by collective decision-making, and this is why the family's buying behavior must be carefully studied and the interactions between its members must be clarified.

The attitude towards the product

The concept of attitude is one of the fundamental elements for understanding the decision-making process of the consumer (Gharbi, 1998). This decision-making process is based on the tripartite structure of attitude which consists of a cognitive component, an affective component and a conative component. In marketing, the concept of attitude is considered as the best predictor of consumer behavior by the majority of analysis models. Although a lot of debates have fueled many reflections on the structure of attitude, the main theory that is currently used in marketing literature (Dubois, 1990) consists in describing attitude by means of three components, namely:

- **The affective component** that takes into account the motivations of the consumer during his process of choosing one of several products available to him. The term "*Motivation*", which characterizes the affective component, is generally used in marketing to refer to all the irrational determinants of human behavior, such as desire, need, emotion, feelings, opinions, etc. Because it is difficult to examine such subjective elements, reference judgments have been made in order to study, in a global way, the emotional behavior of the consumer when confronted with the choice of a product.
- **The cognitive component** that is based on the consumer's beliefs which influence the comparisons between the products to be purchased. These beliefs are structured around the attributes of each product. The consumer's cognitive assessment is based on the judgments of dissimilarities that he perceives between the different brands. This aspect of the attitude is related to the utility and the value of the product in the eyes of the individual, and to wisdom and behavior as well.
- **The conative component** that refers to the behavior of the consumer; it concerns the conscious and planned actions that the consumer undertakes. The difficulties encountered in linking the cognitive and affective components with the real purchasing behavior of the consumer have led researchers to use "*The intention to purchase*" as an indicator of the conative component (Filser, 2003).

Methodology of the empirical research

The test for the validation of the research hypotheses leads us to adopt a research method that makes better use of the data collected. This can only be relevant with a good sample selection, adequate measurement scales, and a rigorous questionnaire processing. The results obtained are next analyzed in a way to affirm or invalidate the hypotheses considered.

Determination of the sample

Our study was conducted with a sample of 210 households comprising two parents and at least one adolescent between 12 and 19 years old in the Wilaya (Province) of Tlemcen, in Algeria. The construction of the sample was one of the key steps in our work. In addition, it was decided that the data collection instrument would be a self-administered questionnaire, which was distributed to the three members of the family, i.e. father, mother, and child, in November 2016.

Table 1: The distribution of the study sample

Wilaya	Tlemcen
Number of families with an adolescent between 12 and 19	8862
Families surveyed	210

Structure of the questionnaire

The conclusion drawn from this survey is presented with respect to the two vectors sought in the questionnaire:

- Purchasing behavior within the household
- The attitude towards the product

Results and discussion

In this step, an attempt is made to examine the internal consistency of the different measurement scales adapted to our study. The results of the tests are summarized in the tables.

Reliability and internal consistency of the measurement model for the purchase of food products

In general, the results of the principal component analysis (PCA) of the present study indicate a good internal consistency of the measurement scales. Also, the ANOVA tests were very conclusive and Fisher's F test was significant, and this allows us to start our confirmatory factor analysis.

The results of the principal component analysis (PCA) for the category of food products are presented as follows:

Table 2: Internal consistency of measurement scales when the father purchases food products (PA)

Variables	Nb. items Selected	KMO	Cronbach α	ANOVA		Bartlett Spherit	Avge	cov	Total Variance
				F	Sig				
PAATT	6	.882	.944	10.542	.000	.000	3.578	1.3115	78.246
PACOG	7	.891	.939	18.222			3.928	1.0616	73.481
PAAFF	5	.796	.841	37.338			2.937	1.2806	62.282
PACON	7	.829	.830	15.968			3.471	1.1087	61.325
Total	25	-----	-----	-----	-----	-----	-----	-----	-----

Source: Author's elaboration using the Statistica Software (N = 210)

The Cronbach's alpha of the sustainable engagement scale is excellent (> 0.9); it reveals a good internal consistency. The alphas of all factors are also good, as they vary between 0.830 and 0.939. The KMO index values are all higher than 0.75, which confirms the results obtained with Cronbach's alpha. The Bartlett's sphericity test is significant; the communities and factorial weights of the items are high (> 0.5), which confirms the adequacy of the data to factorization.

Table 3: Internal consistency of measurement scales when the mother purchases food products

Variables	Nb. Items selected	KMO	Cronbach α	ANOVA		Bartlett Spherit	Avge	Cov	Total Variance
				F	Sig				
PAATT	6	.884	.946	10.676	.000	.000	3.814	1.1549	79.176
PACOG	7	.908	.951	19.177			4.204	.9833	77.558
PAAFF	5	.793	.835	56.012			3.323	1.1106	61.656
PACON	7	.862	.887	36.747			3.452	1.1986	66.201
Total	25	-----	-----	-----	-----	-----	-----	-----	-----

Source: Author's elaboration using the Statistica Software (N = 210 families)

The Principal Component Analysis (PCA) yielded a KMO index greater than 0.79, a satisfactory Cronbach alpha between 0.83 and 0.95, and a fairly significant Bartlett sphericity test. This allows confirming the adequacy of data to factor analysis of the components.

Table 4: Internal consistency of measurement scales when the adolescent purchases food products

Variables	Nb. items selected	KMO	Cronbach α	ANOVA		Bartlett Sphericity	Avge	Cov	Total Variance
				F	Sig				
PAATT	6	.884	.946	10.676	.000	.000	3.876	1.1364	79.176
PACOG	7	.908	.951	19.177			4.014	.9833	77.558
PAAFF	5	.793	.835	56.012			3.323	1.1500	61.656
PACON	7	.862	.887	36.747			3.533	1.1344	66.244
Total	25	-----	-----	-----	-----	-----	-----	-----	-----

Source: Author's elaboration using the Statistica Software 12.0 (N = 210)

The Principal Component Analysis (PCA) results reported in Table 4 are greater than 0.7; they indicate that the quality of representation of all the items is good. Regarding the internal consistency of this scale, the Cronbach Alpha (0.887) and the KMOs were found satisfactory.

Results of the confirmatory factor analysis for the purchase of food products Structural model adjustment indices for the purchase of food products

Since the sample data are not multi-normal and the analysis relates to correlations, then they should be considered more as a measure of adjustment and not as the result of a significance test. The adjustment indices are good in general, whether they are the classical statistics calculated on the values of the sample (GFI, AGFI, CFI, NFI, CMA) or model adjustment indices that are estimated on the population (Population Gamma Index, Population Adjustment Gamma Index, and Root Mean Square Error of Approximation). These indicators allow us only to evaluate the quality of the model in absolute terms; they do not stipulate in any case the rejection of the model. This confirms that the fit is good, and that the estimated values are close to those obtained empirically. Thus we can say that the studied constructs of the measurement model and the structural model present acceptable results (Joreskog and Sorbom, 1996; Steiger, 2007).

Table 5: Adjustment indices of the structural model for the purchase of food products

Indices	Absolute fit indices		
	Values Father	Values Mother	Values Adolescent
Chi ₂	1228.29	1153.64	1667.2
Degree of freedom DF	272	272	272
Level p	0000	0000	0000
RMS Standardized Residues	0.0999	0.0927	0.143
(GFI). Joreskog	0.651	0.671	0.561
(AGFI). Joreskog	0.583	0.607	0.475
Population Noncentrality Parameter	5.398	5.385	8.480
McDonald Noncentrality Index	0.067	0.089	0.014
RMSEA Steiger-Lind index	0.141	0.133	0.177
Gamma Population Index	0.720	0.744	0.616
<i>Adjusted Population Gamma Index</i>	0.666	0.694	0.541
	Incremental fit indices		
Bentler-Bonett Normed Fit Index	0.760	0.804	0.650
Bentler-Bonett Non-Normed Fit Index	0.781	0.825	0.655
Bentler Comparative Fit Index	0.801	0.842	0.688
Bollen's Rho	0.735	0.784	0.614
Bollen's Delta	0.802	0.843	0.689
	Parsimonious fit indices		
James-Mulaik-Brett Parsimonious Fit Index	0.689	0.729	0.589
Ch ² /DF	4.515	4.24	6.129

Source: Author's elaboration using the Statistica Software 12.0 (N = 210)

The fit indices are rather satisfactory despite the existence of values lower than the recommended thresholds of some researchers, according to the model of Bentler and Bonnet (1980). According to Bentler (1990) and Rigdon (1998), these results do not preclude the *advanced hypothesis testing*.

Table 6: Skewness indices of manifest variables for purchasing food products (PA)

Manifest variables	Father		Mother		Adolescent	
	Skewness	Kurtosis	Skewness	Kurtosis	Skewness	Kurtosis
PAcog1	-0.962	0.757	-1.019	0.609	0.110	-0.793
PAcog2	-1.470	2.253	-1.142	0.421	-0.063	-1.180
PAcog3	-0.881	0.009	-0.875	-0.479	0.752	-0.486
PAcog4	-0.795	-0.168	-0.836	-0.551	0.522	-0.908
PAcog5	-0.852	-0.229	-0.946	-0.319	0.518	-0.700
PAcog6	-0.686	-0.008	-0.811	-0.550	0.666	-0.642
PAcog7	-1.058	0.716	-1.338	1.387	0.013	-1.149
PAaff1	-0.707	-0.252	-1.080	0.842	0.299	-0.795
PAaff2	0.063	-0.972	-0.656	-0.488	1.073	0.516
PAaff3	0.095	-0.943	-0.345	-0.951	1.060	-0.061
PAaff4	-0.210	-0.989	-0.813	-0.046	0.640	-0.710
PAaff5	0.296	-1.371	-0.219	-1.010	1.375	1.031
PAcon1	-1.011	0.527	-1.076	0.373	0.509	-0.919
PAcon2	-0.425	-0.983	-0.480	-0.526	1.081	0.245
PAcon3	-0.533	-0.654	-0.645	-0.464	0.960	-0.031
PAcon4	-0.795	-0.265	-0.742	-0.788	0.435	-1.017
PAcon5	-0.010	-1.337	0.122	-1.253	0.537	-1.260
PAcon6	-0.738	0.023	-1.307	0.881	0.447	-0.782
PAcon6	-0.665	-0.828	-1.119	0.268	0.890	0.182
PAcon7	-0.520	-0.803	-0.840	-0.532	0.999	0.419

Source: Author's elaboration using the Statistica Software 12.0 (N = 210 nuclear families)

Symmetry indices (Skewness) are around 0 for most manifest variables, with more negative values for the father and the mother, which means that the responses are more likely to have large values (4 or 5), except for naff indicators (2, 3 and 5) for the father. All the indicators for the child show positive values, which means that the answers gave small values (1 or 2).

Flattening indices (Kurtosis) are quite acceptable, despite some exceedances (gray boxes in Table 6); they can therefore be considered as tolerable by Creswell (2003) as they are in the interval [-3 to 3]. Thus, it can be said that the test of hypothesis H1 is feasible.

The equations of the measurement model and the structural model for the purchase of food products (PA)

The factorial contribution λ_i makes it possible to measure the factorial weight of the manifest variables (indicators or items) on the latent variables (of the theoretical model). Therefore, statistically, Student's t-test must give a value greater than 1.96 at the significance level of 5%, for each factor contribution of the indicators linked to a construct in order to verify the positive relationship between them. The contributions of each item are greater than 0.7 in most cases. The results of λ are therefore satisfactory and logical since Student's t-test gives a value greater than 1.96 at the level of significance of 5%, which makes it possible to check the significance of the link between each indicator and its construct (latent variable).

Evaluation of the model for the measurement of the father's attitude in purchasing food products

The correlation indices between the indicators and the latent variable "Attitude" are very satisfactory, with $\lambda_i > 0.8$ (see table)

The correlation indices between the indicators and the latent variable "Cognitive behavior" are very satisfactory, with $\lambda_i > 0.6$

Table 7: Equation of the measurement model for the variable "Cognitive behavior / Food products / Father"

Manifest variables	Equation $\text{pacog } I = \lambda_i \cdot \text{PACOG} + E_i$	T>1.96	P < 0.05
(PACOG)-->[pacog1]	$\text{pacog } 1 = 0.715 \text{ PACOG} + 0.488$	20.214	0.000
(PACOG)-->[pacog2]	$\text{pacog } 2 = 0.641 \text{ PACOG} + 0.589$	15.134	
(PACOG)-->[pacog3]	$\text{pacog } 3 = 0.916 \text{ PACOG} + 0.160$	70.116	
(PACOG)-->[pacog4]	$\text{pacog } 4 = 0.926 \text{ PACOG} + 0.143$	77.141	
(PACOG)-->[pacog5]	$\text{pacog } 5 = 0.942 \text{ PACOG} + 0.113$	92.580	
(PACOG)-->[pacog6]	$\text{pacog } 6 = 0.778 \text{ PACOG} + 0.395$	26.866	
(PACOG)-->[pacog7]	$\text{pacog } 7 = 0.832 \text{ PACOG} + 0.308$	36.139	

Source: Author's elaboration using the Statistica Software 12.0 (N = 210 nuclear families)

The correlation values between the first four indicators and the latent variable "Affective behavior" are very satisfactory $\lambda_i > 0.7$. There is a low factorial weight for item 5 ($\lambda_i < 0.5$).

Table 8: Equation of the measurement model for the variable "Affective behavior (AFF) / Food products (PA) / Father"

Manifest variables	Equation $\text{paaff } I = \lambda_i \cdot \text{PAAFF} + E_i$	T > 1.96	P < 0.05
(PAAFF)--> [paaff1]	$\text{paaff } 1 = 0.784\text{PAAFF} + 0.385$	24.798	0.000
(PAAFF)--> [paaff2]	$\text{paaff } 2 = 0.855 \text{ PAAFF} + 0.269$	34.729	
(PAAFF)--> [paaff3]	$\text{paaff } 3 = 0.754\text{PAAFF} + 0.432$	21.766	
(PAAFF)--> [paaff4]	$\text{paaff } 4 = 0.777\text{PAAFF} + 0.396$	24.097	
(PAAFF)--> [paaff5]	$\text{paaff } 5 = 0.433\text{PAAFF} + 0.812$	7.189	

Source: Author's elaboration using the Statistica Software (N = 210 nuclear families)

For Table 9, the correlations λ_5 , λ_6 and λ_7 are rather low (> 0.5), but the others show very conclusive thresholds, since Student's t-test value is greater than 1.96.

Table 9: Equation of the measurement model for the variable "Conative behavior (CON) / Food products (PA) / Father"

Manifest variables	Equation $\text{pacon } i = \lambda_i \cdot \text{PACON} + E_i$	T>1.96	P < 0.05
(PACON)--> [pacon1]	$\text{pacon}1 = 0.748\text{PACON} + 0.426$	23.737	0.000
(PACON)--> [pacon2]	$\text{pacon}2 = 0.910\text{PACON} + 0.172$	58.989	
(PACON)--> [pacon3]	$\text{pacon}3 = 0.931 \text{ PACON} + 0.132$	69.964	
(PACON)--> [pacon4]	$\text{pacon}4 = 0.870 \text{ PACON} + 0.243$	44.207	
(PACON)--> [pacon5]	$\text{pacon}5 = 0.276 \text{ PACON} + 0.924$	4.168	
(PACON)--> [pacon6]	$\text{pacon}6 = 0.441\text{PACON} + 0.806$	7.587	
(PACON)--> [pacon7]	$\text{pacon}7 = 0.110 \text{ PACON} + 0.988$	2.551	

Source: Author's elaboration using the Statistica Software 12.0 (N = 210 nuclear families)

Factorial correlations for the structural model of the father's behavior in purchasing food products.

To test this hypothesis, an analysis of structural equations was carried out on a sample of 210 fathers, in the town of Tlemcen. An examination of the significance and values of parameters (correlation coefficient β_i and error disturbance E_i) presented in Table 10 makes it possible to verify that the hypotheses of the model are significant. This allows us to write the corresponding structural equations.

Table 10: General equations for the structural model for the influence of attitude (ATT) on the father's behavior in purchasing food products (PA)

Relationship	CODE and EQUATION of VARIABLES	β_i	E_i	T>1.96	P<0.05
(PAATT)-->(PACOG)	$\text{PACOG} = \beta_i \text{ PAIMP} + E_i$	0.548	0.700	10.561	0.000
(PAATT)-->(PAAFF)	$\text{PAAFF} = \beta_i \text{ PAIMP} + E_i$	0.821	0.327	27.401	
(PAATT)-->(PACON)	$\text{PACON} = \beta_i \text{ PAIMP} + E_i$	0.677	0.542	16.203	

Source: Author's elaboration using the Statistica Software 12.0 (N = 210 nuclear families)

The first sub-hypothesis, which asserts that sustainable involvement towards food has a positive influence

on the father's purchasing behavior, is confirmed. The analysis shows that the father's buying behavior is as follows:



According to our analysis, fathers have a rather emotional tendency before buying food. The buying process is characterized by a positive feeling towards this category of products, and this should stimulate fathers to carry out the purchase themselves and get the information afterwards. The results obtained are in good agreement with those found by the Zajonc and Markus (1982) approach. This approach states that the emotional behavior can sometimes dominate the cognitive component in the consumer's buying decision process. The correlations are shown in the figure below for the structural model.

Evaluation of the model for the measurement of the mother’s attitude in purchasing food products

The analysis of the factorial values of λ_i is very satisfactory, and this allows us to say that there is a strong contribution of the items to the explanation of the mother's involvement in *food purchasing*.

Evaluation of the model for the measurement of the mother’s behavior in purchasing food products

The contribution of all indicators to the explanation of cognitive behavior for the purchase of food is very satisfactory (λ_i between 0.65 and 0.93).

Table 11: Equation of the measurement model for the cognitive behavior variable (COG) "Cognitive behavior (COG) / food products (PA) / mother"

Manifest variables	Equation $pacog\ I = \lambda_i \cdot PACOG + E_i$	T>1.96	P<0.05
(PACOG)-->[ncog1]	$pacog\ 1 = 0.670\ PACOG + 0.582$	15.674	0.000
(PACOG)-->[ncog2]	$pacog\ 2 = 0.826\ PACOG + 0.317$	35.926	
(PACOG)-->[ncog3]	$pacog\ 3 = 0.960\ PACOG + 0.079$	135.602	
(PACOG)-->[ncog4]	$pacog\ 4 = 0.938\ PACOG + 0.120$	97.647	
(PACOG)-->[ncog5]	$pacog\ 5 = 0.917\ PACOG + 0.159$	74.984	
(PACOG)-->[ncog6]	$ncog\ 6 = 0.901\ NCOG + 0.188$	63.764	
(PACOG)-->[ncog7]	$ncog\ 7 = 0.785\ NCOG + 0.384$	28.476	

Source: Author’s elaboration using the Statistica Software 12.0 (N = 210 nuclear families)

With regard to the mother's affective behavior towards the purchase of food, correlations λ_i are found greater than 0.7 except for item 5 "I like purchasing food even if it is not for me" which shows a weak correlation ($\lambda_i = 0.354$).

Table 12: Equation of the model of measurement for the variable “Affective behavior (AFF)// food products (PA) / mother “

Manifest variables	Equation $paaff\ I = \lambda_i \cdot PAAFF + E_i$	T>1.96	P<0.05
(PAAFF)-->[paaff1]	$paaff\ 1 = 0.705\ NAAFF + 0.504$	18.516	0.000
(PAAFF)-->[paaff2]	$paaff\ 2 = 0.922\ NAAFF + 0.150$	54.511	
(PAAFF)-->[paaff3]	$paaff\ 3 = 0.829\ NAAFF + 0.313$	32.407	
(PAAFF)-->[paaff4]	$paaff\ 4 = 0.719\ NAAFF + 0.482$	19.642	
(PAAFF)-->[paaff5]	$paaff\ 5 = 0.354\ NIMP + 0.874$	5.596	

Source: Author’s elaboration using the Statistica Software 12.0 (N = 210 nuclear families)

The AFC of the conative behavior for the mother to buy food gives good values of λ_i except for items 3 and 7. This means that we cannot say for sure if the mother makes the purchase of food herself, or the decision to do it is taken by another person within the household.

Table 13: Equation of the measurement model for the variable "Conative behavior (CON) / food products (PA) / mother"

Manifest variables	Equation $\text{pacon } i = \lambda_i \cdot \text{PACON} + E_i$	T>1.96	P<0.05
(PACON)--> [pacon1]	pacon1=0.749 PACON + 0.439	23.200	0,000
(PACON)--> [pacon2]	pacon2=0.879 PACON + 0.227	48.634	
(PACON)--> [pacon3]	pacon3=0.948 PACON + 0.102	87.102	
(PACON)--> [pacon4]	pacon4=0.882 PACON + 0.221	49.806	
(PACON)--> [pacon5]	pacon5=0.479 PACON + 0.770	8.702	
(PACON)--> [pacon6]	pacon6=0.723 PACON + 0.478	20.686	
(PACON)--> [pacon7]	pacon7=0.376 PACON + 0.859	6.152	

Source: Author's elaboration using the Statistica Software 12.0 (N = 210 nuclear families)

Factorial correlations of the structural model for the mother's behavior in purchasing food products

The following table shows the results of the confirmatory factor analysis.

Table 14: General equations of the structural model for the influence of attitude on the mother's behavior in purchasing food products

Relationships	CODE AND EQUATION OF VARIABLES	β_i	E_i	T>1.96	P<0.05
(PAATT)-->(NCOG)	ELCOG = β_i PAATT + E_i	0.864	0.253	43.795	0.000
(PAATT)-->(NAFF)	ELAFF = β_i PAATT + E_i	0.834	0.304	31.899	
(PAATT)-->(NCON)	ELCON = β_i PAATT + E_i	0.745	0.446	22.017	

Source: Author's elaboration using the Statistica Software 12.0 (N = 210 nuclear families)

The second sub-hypothesis states that sustainable implication towards food has a positive influence on the mother's purchasing behavior. The analysis shows that the mother's buying behavior is in the following order:



Correlations between manifest variables of the structural model for the purchase of food ($H_{1.2}$: $\beta_{\text{aff}} = + 0.864$, $\beta_{\text{con}} = + 0.834$, $\beta_{\text{cog}} = + 0.745$, $T > 1.96$, $p < 0.05$). This confirms this sub-hypothesis. Unlike fathers, mothers have a more reflective behavior which is characterized by a search for information when it comes to buying food. This is due to the fact that all the women who participated in the survey are stay-at-home mothers and therefore the preparation of meals is part of their daily tasks. That is why food products are the mother's business. This finding is corroborated by the results reported by Davis and Rigaux (1974).

Evaluation of the model for measuring the adolescent's attitude towards the purchase of food products

All items have a significant factorial impact $\lambda_i > 0.5$, $T > 1.96$, $P < 0.05$.

Table 15 shows correlations above 0.6, which means that the factorial weight of each indicator contributes positively to explaining the latent variable.

Table 15: Equation of the measurement model for the variable "Cognitive behavior (COG) / food products / adolescent"

Manifest variables	Equation $\text{pacog } i = \lambda_i \cdot \text{PACOG} + E_i$	T>1.96	P<0.05
(PACOG)--> [pacog1]	pacog 1 =0.689 PACOG + 0.513	17.809	0.000
(PACOG)--> [pacog2]	pacog 2 =0.638 PACOG + 0.593	14.278	
(PACOG)--> [pacog3]	pacog 3 =0.829PACOG + 0.312	31.858	
(PACOG)--> [pacog4]	pacog 4 =0.845 PACOG + 0.287	34.517	
(PACOG)--> [pacog5]	pacog 5 =0.833 PACOG + 0.306	32.425	
(PACOG)--> [pacog6]	pacog 6 =0.632 PACOG + 0.601	13.979	
(PACOG)--> [pacog7]	pacog 7 = 0.700PACOG + 0.510	17.937	

Source: Author's elaboration using the Statistica Software 12.0 (N = 210 nuclear families)

The AFC performed on the different indicators of the child's affective behavior shows good factorial scores with $\lambda_i > 0.6$ (see table below).

Table 16: Equation of the measurement model for the variable "Affective behavior (AFF) / food (PA) / adolescent"

Manifest variables	Equation $paaff\ i = \lambda_i \cdot paAFF + E_i$	T>1.96	P<0.05
(PAAFF)--> [paaff1]	$paaff1=0.668 PAAFF + 0.553$	15.760	0.000
(PAAFF)--> [paaff2]	$paaff2=0.877 PAAFF + 0.231$	39.197	
(PAAFF)--> [paaff3]	$paaff3=0.829 PAAFF + 0.312$	30.872	
(PAAFF)--> [paaff4]	$paaff4= 0.750PAAFF + 0.438$	21.597	
(PAAFF)--> [paaff5]	$paaff5= 0.604PAIMP + 0.604$	12.600	

Source: Author's elaboration using the Statistica Software 12.0 (N = 210 nuclear families)

Regarding the child's conative behavior for food purchase, the correlations are significant with Student t-test value greater than 1.96 and a P degree of freedom less than 0.05. However, indicators 5, 6 and 7 show positive but weak correlations.

Table 17: Equation of the measurement model for the variable "Conative behavior (CON) / food products (PA) / adolescent"

Manifest variables	Equation $pacon\ i = \lambda_i \cdot +PACON + E_i$	T>1.96	P<0.05
(PACON)--> [pacon1]	$pacon\ 1 =0.842 PACON + 0.292$	38.586	0.000
(PACON)--> [pacon2]	$pacon\ 2 =0.943 PACON + 0.111$	90.271	
(PACON)--> [pacon3]	$pacon\ 3 =0.961PACON + 0.077$	108.925	
(PACON)--> [pacon4]	$pacon\ 4 =0.844PACON + 0.287$	39.233	
(PACON)--> [pacon5]	$pacon\ 5 =0.305PACON + 0.907$	4.757	
(PACON)--> [pacon6]	$pacon\ 6 =0.314PACON + 0.901$	4.924	
(PACON)--> [pacon7]	$Pacon\ 7 =0.149 PACON + 0.978$	2.162	0.034

Source: Author's elaboration using the Statistica Software 12.0 (N = 210 nuclear families)

Factorial correlations of the structural model for the adolescent's behavior in purchasing food products

The correlations are positive, indicating that the adolescent's attitude has a positive influence on his behavior in buying food, but with lower values than those of the father and mother.

Table 18: General equations of the structural model for the influence of attitude on the adolescent's behavior in buying food products (PA)

Relationships	CODE AND EQUATION OF VARIABLES	β_i	E_i	T>1.96	P<0.05
(PAATT)-->(PACOG)	$ELCOG = \beta_i PAATT + E_i$	0.520	0.730	9.210	0.000
(PAATT)-->(PAAFF)	$ELAFF= \beta_i PAATT + E_i$	0.784	0.386	23.049	
(PAATT)-->(PACON)	$ELCON = \beta_i PAATT + E_i$	0.632	0.600	13.911	

Source: Author's elaboration using the Statistica Software 12.0 (N = 210 nuclear families)

The adolescent's buying behavior is similar to that of the father with respect to the hierarchy of effects. It is as follows:



The three sub-hypotheses H 1.1, H 1.2 and H 1.3 have all been confirmed; this corroborates hypothesis H1 which states that the attitude of one of the members of the household towards the purchase of food has an impact on their behavior and on the hierarchy of effects.

Conclusion

This research helps to better understand the buying process within Algerian families. This study allows showing that the woman's decision to buy food is done in a rational way. For women, buying food is synonymous with risk-taking. This means that she is always on the lookout for real, authentic and natural foods. On the other hand, the father and child make their purchasing decisions in a spontaneous and unthinking manner. They are more interested in the aesthetic aspects of the product, such as the packaging, color, design, smell, etc. They are more sensitive to the subjective and symbolic characteristics of the product. The answers to this question should enable managers, especially food and grocery retailers, to appreciate the real benefits they can derive from understanding the family members in order to influence their purchasing behavior, and especially that of the woman who buys according to the utilitarian motivation and according to the quality of the product, as she is the

first responsible for food purchasing in the family. Thus, it is easy to notice that the other members of the family (father and adolescent) have behaviors that are guided by their psychological environment (habit, routine, stimuli, etc.).

From the managerial point of view, the results obtained from this study enable food industry professionals, as well as agri-food industry decision-makers, to adapt their products to the target customers, namely the mother, the father and the teenager. This certainly allows them to better understand the family purchasing behavior in order to better satisfy their needs and expectations; it can also help them anticipate their demands and develop competitive marketing strategies as well (Anderson and al, 1994).

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