

## Cartas científicas

**Obesity and overall satisfaction with pork meat and derived pork-based products**H. Resano<sup>1,2</sup>, W. Verbeke<sup>1</sup>, M. Dutra de Barcellos<sup>3,4</sup>, K. G. Grunert<sup>3</sup> and F. J. A. Pérez-Cueto<sup>1\*</sup><sup>1</sup>Ghent University. Department of Agricultural Economics. Ghent, Belgium. <sup>2</sup>Agro-food Science and Technology Park Aula Dei. Zaragoza. Spain. <sup>3</sup>Aarhus University. MAPP Centre for Research on Customer Relations in the Food Sector. Aarhus. Denmark. <sup>4</sup>Pontifical Catholic University of Rio Grande do Sul. Porto Alegre. Brazil.

Each consumer is a potential patient. Epidemiologists and public health practitioners question why there is little adherence to dietary advice, particularly among overweight/obese individuals. Most recommendations describe a lifestyle incorporating healthy diet, physical activity, and weight management. Dietary advice considers reduction of energy intake, particularly added lipids or sugar and reduction of salt. It conveys increased consumption of fruits and vegetables, a variety of foods, and limited consumption of meats, especially processed ones.<sup>1</sup> Red meat, including pork, has been suggested to increase risk of colon cancer or car-

diovascular disease.<sup>2</sup> However, recent studies have associated red meat and derived products' with healthy outcomes such as the reduction of cholesterol levels and blood pressure.<sup>3,4</sup>

Weight management is challenging, particularly for obese patients. Added to the physical challenge, they face emotional and affective distress while in diet. Then, eating becomes a coping mechanism that may hinder any desirable progress.

Within a larger web-based pan-European consumer research project, carried out in January 2008 in Belgium, Denmark, Poland, Greece and Germany,<sup>5</sup> we investigat-

**Table I**  
Determinants of pork consumers' overall satisfaction with pork meat and derived pork-based products (n = 2,156)<sup>a</sup>

Variable	Coefficient	Exp (B)	C. I. for Exp (B)		P-value
			Lower	Upper	
<i>Belgium (Ref.)</i> *		1			
Denmark	-0.549	0.577	0.436	0.764	< 0.001
Poland	0.245	1.278	0.963	1.696	0.089
Greece	-0.253	0.776	0.591	1.020	0.069
Germany	0.596	1.814	1.362	2.417	< 0.001
<i>Financial status not well off (Ref.)</i>		1			
Modest	-0.269	0.764	0.570	1.024	0.072
Reasonable or well off	-0.280	0.756	0.574	0.995	0.046
<i>Non-obese consumers (Ref.)</i>		1			
Obese consumers	0.323	1.381	1.118	1.706	0.003
Total pork consumption	-0.072	0.931	0.870	0.996	0.037
Constant	0.186	1.205			0.280

<sup>a</sup> Adjusted for country of origin, financial status, gender, age, nutritional status, educational level and satisfaction with convenience (Hosmer & Lemshaw goodness of fit test's P value > 0.05).

\* "Ref." indicates the reference value.

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ed possible associations between obesity and overall satisfaction with pork meat and derived pork-based products. Consumers' satisfaction is an emotional or cognitive response based on personal experience with a particular subject, pork meat in this case.<sup>6</sup> Since obesity determinants are diverse, we hypothesized that specific consumer characteristics such as overall satisfaction

with pork and derived products may entail both an opportunity and a threat to weight management programs, if any association with obesity could be demonstrated.

From a total of 2437 consumers, 2156 respondents self-classified themselves as pork eaters, and self-reported their weights and heights. A binary logistic regression model was fitted to investigate possible associations between overall satisfaction, socio-demographics and nutritional status (table I).

Compared to Belgian consumers, Germans were more likely to be satisfied with pork, while Danish were not. Wealthy respondents were less likely to be satisfied with pork than those who were not well-off, probably reflecting a socio-economic gradient in the use and evaluation of pork. Most importantly, obese Europeans in this sample were 1.4 times more likely to be satisfied with pork products than non-obese consumers.

Since satisfaction is a precondition of repeated purchase and loyalty, our study suggests that any dietary intervention implying reduction of products with which consumers are satisfied will be a threat to its success. Contrarily, diet formulations could benefit from incorporating food items with which consumers are satisfied such as pork meat and derived pork-based products. Selection of the healthiest alternatives could enhance adherence to dietary interventions, and forecast their success. The challenge is to realize satisfaction with healthy products, and satisfaction with pre-

scribed diets (weight management programs or at hospital).

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