THE IMPACT OF EXPERIENCE AND CONSUMER PERCEPTIONS ON PERCEIVED RISK AND RISK REDUCTION BEHAVIOUR - THE CASE OF BEEF

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ABSTRACT

This research examines perceived risk at the facet level (Psychological, Social, Performance, Safety, Health and Financial) and assesses the influence of consumer experience and perception of self (perceived ability, interest in product and interest in cooking), product (perceived product consistency), and environment (perceived confidence in the independent butcher) on these facets. It can be concluded that the influence of experience and perceptions varies by facet. However, perceived ability, confidence in the independent butcher and interest in beef were significant determinants of perceived risk for most risk facets while cooking interest, perceived consistency and experience were more risk facet specific. In the second section of this paper the use of risk relievers is considered. It is clear that consumer experience and perceptions also influence the level of use of risk relievers, for example those with more experience, who believe beef is consistent and are confident in their ability to select beef tend to use location more than others. It was concluded that the person's views of themselves, of the product and of the purchase environment have a direct effect on their information search activity even for a relatively low involvement product.

Key words: Beef, safety, risk perceptions, Ireland

INTRODUCTION

The purpose of this introduction is to present a brief review of the literature pertaining to risk and risk assessment. It is clear that any decision has, to some extent, risk associated with it, as the desired outcome may not be achieved. Economists, psychologists, social scientists and consumer behaviour scientists have all attempted to explain decision-making under uncertainty. The basis of the economist's approach to decision making under uncertainty is to quantify alternatives in terms of probabilities and the values of outcomes (Starmer, 1998). Economists also seek to explain the systematic overestimation and underestimation of losses and gains. These estimation errors are, in part, explained by probability weighting, loss aversion and framing effect (Harbaugh, 2002). Probability weighting suggests that decision-makers overweigh small probability gains/losses and underweigh high probability gains/losses. Loss aversion highlights the shame associated with a loss, thus the desire to avoid this increases dislike of small losses more than risk calculation would estimate. Barberis et al. (2001) note that past experience influences loss aversion. Presenting the same problem in alternative formats, the framing effect, can also result in different judgements being made (Kahneman et al., 1982). Self-confidence in one's own ability is highlighted as an important factor influencing risk judgements.

Another school of research that explores consumer perceptions of risk, the psychometric paradigm, concentrates on perceived hazards and these are mapped on a factor space (Slovic, 1992). The value of this school of research is that it highlights the relative level of concern about a variety of hazards and underlines the source issues associated with these potential hazards. An examination of the psychometric paradigm highlights the reasons why the lay-public assessment of the risks associated with hazards often diverge from that of the scientific

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community. Again, social psychologists note a systematic overestimation and underestimation of risk assessments for various food hazards. The underlying reasons noted for these divergent assessments are the broad assessment criteria used by the lay-public. Perceived knowledge, familiarity, control and concern are some of the issues considered by the public. Again confidence in ones own assessment is a key factor in modifying beliefs and thus risk assessment. Unknown/familiarity and dread/severity are the higher order factors associated with risk assessment (Spark and Shepherd, 1994). Thus, similar to the economic model, one's perceived knowledge and experience appear to affect risk judgments. Furthermore, perception of the hazard on the two main dimensions influences the type of information required and willingness to engage in information search by the individual. The psychometric paradigm provides a theoretical foundation for aiding in the process of risk communication in times of crisis management and for message transmission in the long-term and thus has an important role in guiding public policy and information dissemination.
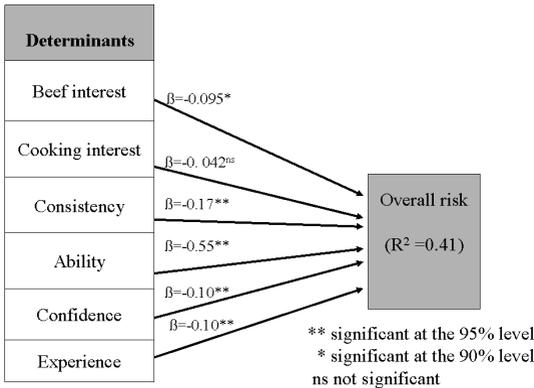
Perceived risk, as defined in consumer behaviour research, is a two dimensional multifaceted construct. Stone and Grønhaug (1993:42) defined perceive risk as "the subjective expectation of loss" and similar to economic models, this view of perceived risk has a probability and utility (importance) component, however, unlike the economic model, consumer behaviour research on perceived risk concentrates on loss outcomes and does not examine gains (Mitchell, 1999). The probability of loss element is the subjective judgement of the individual and is therefore influenced by confidence in one's perceived ability and past experiences (Mitchell and McGoldrick, 1996; Cunningham, 1967; Henson and Northen, 1998). In the consumer behaviour model of perceived risk a set of relevant generic facets that link to these potentially negative outcomes are identified. It is clear that the facets associated with perceived risk differ at a product category level; therefore the important risk facets can vary across product categories and classifications. However the most commonly observed facets include: performance, financial, physical, psychological, social and time. This approach has been applied widely in the food category (Hornibrook and Fearne, 2001; Mitchell and Boustani, 1994; Mitchell and McGoldrick,1996). Mitchell (1991) notes that the psycho-social risk is most important in the selection of wine and chocolate while physical or health risk are most important for foods such as fresh apples, sausages and instant coffee. Mitchell and Boustani (1993) find that performance (taste) and time (convenience) risks are very important when considering breakfast cereals while McCarthy and Henson (2002) note that performance, financial, physical (safety and health) and social risks are important to Irish customers of beef.

Constructs that influence level of perceived risk

As mentioned above in economic literature perceived ability influences the level of perceived risk. Henson and Northen (1998) and McCarthy and Henson (2004) have highlighted the link between perceived risk and perceived ability for meat products. Henson and Northen note that perceived ability impacts on the number of indicators used, while McCarthy and Henson (2004) note that as perceived ability increases perceived risk decreases. Another study found that those who purchase in speciality stores believe that the product is more important to them, are more self-confident and perceive less risk in their purchases that those who purchase in a department store (Dash et al., l976). Interest in the product category appears to be a key determinant of involvement (Laurent and Kapferer, 1985). Increased interest/pleasure suggests increased involvement. Thus, as increased involvement is linked to knowledge, increased interest/pleasure should result in reduced probability of product failure due to the level of importance attached to the loss. This presents an interesting question with regard to the relationship between interest and perceived risk as interest increases the importance of the loss may also

increase but with this interest comes knowledge and thus reduced probability of loss. Furthermore attitude toward product consistency influences the consumer's attitude towards products and thus the level of perceived risk.   McCarthy and Henson (2004) found that those who were confident in their purchase location and believed that beef was consistent perceived low levels of risk. Figure 1 highlights the significant determinants of perceived risk for beef as identified by McCarthy and Henson (2004) when using an overall measure for perceived risk.

Figure 1: Determinants of perceived risk as presented by McCarthy and Henson (2004)

Determinants	
Beef interest	$\beta=-0.095^*$
Cooking interest	$\beta=-0.042^{ns}$
Consistency	$\beta=-0.17^{**}$
Ability	$\beta=-0.55^{**}$
Confidence	$\beta=-0.10^{**}$
Experience	$\beta=-0.10^{**}$

Overall risk ($R^2 =0.41$)

** significant at the 95% level
* significant at the 90% level
ns not significant

Risk reduction behaviours

One of the main reasons for investigating perceived risk is to identify methods used to reduce the level of risk perceived by the individual. Risk reduction behaviour is engaged in to enhance the probability of a successful purchase.   The relevant information used to achieve this objective varies depending on the individual (McCarthy and Henson, 2004), the product (Debaix, 1983) and even the risk facet (Roseliue, 1971, McCarthy and Henson, 2003). Risk relievers that have been noted as important in the case of fresh meat include fat (Grunert,1997; Northen, 2000), colour (Grunert,1997; Bredahl et al., 1998), purchase location (Grunert,1997; McCarthy and Henson, 2002), the butcher (Hornibrook and Fearne, 2001; McCarthy and Henson, 2002) and label information (Country of Origin and use-by-date) (Hornibrook and Fearne, 2001; McCarthy and Henson, 2002).

Table 1: Annual meat consumption in Ireland, 1992 to 2002 (kg per head)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Beef and veal	17.3	16.9	15.8	14.6	13	16.7	18.1	17.1	16.4	17.1	17.5
Sheep meat	8.4	8.2	8.3	7.4	6.7	8.3	8.8	9.0	8.0	4.7	5.2
Pig meat	36.9	35.7	35.9	37.8	37.8	38.2	40.7	41.4	39.6	39.3	38.3
Poultry meat	24.1	25.1	27.4	30.4	31.5	31.4	29.8	30.8	33.4	30.5	30.5
Total	87.3	86.3	87.8	90.2	89	94.6	97.4	98.3	97.4	91.6	91.5
Beef and veal market share (%)	19.8	19.6	18	16.1	14.6	17.7	18.5	17.4	16.8	18.7	19.1

Source: CSO Meat Supply Balance, 1997-2004

The level of risk perceived and the risk reduction behaviour is influenced by a variety of factors. As highlighted above ability, self-confidence and involvement influence the level of perceived risk and also risk reduction behaviours. It is clear that one of the reasons for re-

searching consumer risk perceptions is to get a better insight into their use of information when making a purchase decision.

The Irish meat and beef market

The total meat market in the Irish Republic is worth over €1.27 IRL billion. In the period 1992 to 1995, average per capita consumption of the meats, presented in table 1, rose from 87.3kg to 90.2 kg.

The increase in poultry meat consumption from 24.1 kg to 30.4 kg was offset by falling consumption of beef and veal and mutton and lamb (15.6 percent and 11.4 percent respectively). The trend reflects consumer needs and product attributes. Mannion et al. (2000) suggest that the factors influencing consumer choice of meat are sensory, safety, healthiness, leanness, freshness and origin. While white meats (in particular poultry) were perceived as healthy, versatile and convenient and represented good value for money this perception did not hold for red meat and many perceived these as a relatively unhealthy, expensive product that lacks versatility and convenience (Co-op Ireland, 1994). Thus the decline in red meat consumption in the mid-1990's is not surprising. The popularity of beef declined further in 1996 due to the confirmation of the possible link between bovine BSE [2] and nvCJD [3] in humans. In that year, per capita beef consumption dropped to 13kgs and accounted for approximately 14 percent of total meat consumption. This compared to 17.3kg/capita consumption and almost 20 percent market share in 1992. Another factor that influenced demand was the quality of red meats which was viewed as rather inconsistent; this reflected a variety of production factors (these include facets such as breeds, feeding, animal age at slaughter, etc). However, more recently, in the Irish context, we have seen significant developments on the part of An Bord Bia to link markets and marketing to product and product specifications (An Bord Bia 1999(a), An Bord Bia 1999(b)). In 1997 consumption patterns altered considerably. Overall meat consumption increasing by over 6 percent and beef consumption rose by 28.5 percent to account for almost 18 percent of total meat consumption. Price influenced this increase in beef consumption but the increase may not only be related to a price effect, but also a more positive perception of beef from a health, diet and safety perspective. Interestingly, more recently beef consumption has increased and market share for beef has reached levels similar to the early 1990's.

Beef provides a very interesting food product for the purposes of investigating perceived risk as many of the facets of perceived risk have been highlighted as issues of uncertainty for customers and consumers of beef. The BSE crisis raised questions regarding its safety, inconsistencies in the product raised questions about its performance (eating enjoyment) and fat content raised questions about it healthiness.

METHODS

Research Objectives

The objectives of this research were to first to investigate the degree to which consumer experience and perceptions impact upon the facets of perceived risk and second to establish if risk reduction behaviour differs based on consumer experience and perceptions. Consequently, two hypotheses were put forward:

The first hypothesis can be stated as:

H1 The influence of experience, perceived ability, perceived consistency, confidence in the

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[2] *BSE: Bovine Spongyform Encephalopathy*
[3] *nvCJD: new variant Creutzfeld Jacob Disease*

independent butcher and interests will differ for the six facets of risk.

The second hypothesis can be stated as:

H2 The use risk relievers differ based on experience, interest, confidence in the independent butcher, ability and consistency.

To test these hypotheses a series of statements was developed to measure perceived risk (by risk facet), interest, perceived ability, confidence in the independent butcher and perceived consistency. The proxy for experience was age by frequency of consumption. As mentioned earlier, the product used for this investigation was beef. The process for statement and construct development adhered to the guiding principles recommended by Churchill (1979). The initial series of statements developed was guided by past literature and in-depth interviews. These statements were then piloted and adjusted. The measures for the constructs interest, perceived ability, confidence in independent butcher and perceived consistency are presented in table 2. Factor analysis using principal axis factoring and cronbach alpha were used to test the uni-dimensionality and reliability of the constructs. The factor loadings were acceptable and while the alpha score for beef interest of 0.5052 is on the low side it was considered acceptable. The statement scores for each construct were summated and used for further analysis.

Table 2: Perceived ability, consistency, cooking interest, beef interest and confidence

	Statements	Factor loadings	α-score
Ability	I find choosing good quality beef difficult	0.532	0.7606
	I am confident in my ability to select good quality beef	0.450	
	I find it easy to select good quality beef	0.712	
	I feel I have control over the quality of the beef I buy	0.767	
	I am a good judge of quality beef	0.736	
Consistency	No matter where I buy beef, its always the same	0.764	0.7721
	No matter where I buy beef I get the same enjoyment	0.763	
	I feel that beef in most stores is equally acceptable	0.670	
Cooking interest	I think cooking is great fun	0.874	0.6702
	I do not like to spend much time cooking	0.427	
	I have a strong interest in cooking	0.647	
Beef interest	Beef is a product, which leaves me totally indifferent	0.389	0.5052
	I enjoy cooking with beef	0.706	
	I have a strong interest in beef	0.463	
Confidence	To buy beef of the highest quality I go to a butcher	0.671	0.8768
	Beef in a supermarket is not as fresh as the butcher shop	0.784	
	You get better service from a butcher than in a supermarket	0.866	
	When buying beef I have more confidence in a butcher than in a supermarket	0.886	

The design of the perceived risk measurement instrument was also guided by the literature. Mitchell (1999) suggests that the two-dimension model (probability of loss (P) and importance of loss (I)) presents one of the best measures of perceived risk. Thus, the measurement instrument included a measure for each of the individual facets, namely social, financial, performance, health, safety and psychological. All statements were measured using a seven-point scale from 'very strongly agree' (1) at one extreme to 'very strongly disagree' (7) at the other extreme. In general the reliability and dimensionalty of the risk facet measures were good. For more detail on these measures please refer to McCarthy and Henson (2004).

For the purpose of this analysis 8 risk relievers are considered namely: location, colour, fat, labels, country of origin, quality marks, price and butcher's advice. These risk relievers have been identified as important in the beef category (Grunert, 1996; McCarthy and Henson, 2002; McCarthy and O'Reilly, 1999). Respondents were asked to indicate the extent to which they used each risk reliever for each type of risk on a five-point interval scale where 0 represented 'never' and 4 represented 'always'.

Data Collection

A nationally representative survey (n=510) was undertaken with quotas for age and social class (these quotas reflected the distribution of the population of the Republic of Ireland). Respondents were primarily responsible for shopping and meal preparation within their household thus the majority of respondents were female (93%). A research company (Quota Search) was recruited to collect the data. Five hundred and two valid questionnaires were returned.

FINDINGS

Based on the literature review it is argued that consumer experience, perception of self (perceived ability, interest in product and interest in cooking), product (perceived product consistency), and environment (perceived confidence in location) might all affect the level of risk perceived at the risk facet level when purchasing beef. The question raised is whether these constructs are significant determinants for all risk facets or are they risk specific. The hypothesis "The influence of experience, perceived ability, confidence in the independent butcher, perceived consistency and interests will differ for the six facets of risk for beef" was tested using multiple linear regression. Collinearity analysis was conducted on all of the regression models and in all cases the VIF (Variance Inflation Factor) was not greater than 4, thus indicating no serious multicollinearity problem. The dependent "perceived risk" was calculated using the multiplication PxI measures and the following risk facet models were tested:

Perceived Psychological Risk (PxI) = Constant + b1ab + b2 cookin + b3 beefin + b4 consis+ b5 conf + b6 exper + U   (1)

Perceived Safety Risk (PxI) = Constant + b1ab + b2 cookin + b3 beefin + b4 consis + b5 conf + b6 exper + U   (2)

Perceived Health Risk (PxI) = Constant + b1ab + b2 cookin + b3 beefin + b4 consis + b5 conf + b6 exper + U   (3)

Perceived Performance Risk (PxI) = Constant + b1ab + b2 cookin + b3 beefin + b4 consis + b5 conf + b6 exper + U   (4)

Perceived Financial Risk (PxI) = Constant + b1ab + b2 cookin + b3 beefin + b4 consis + b5 conf + b6 exper + U   (5)

Perceived Social Risk (PxI) = Constant + b1ab + b2 cookin + b3 beefin + b4 consis + b5 conf + b6 exper + U   (6)

Where:
Const is the constant.
ab is perceived ability to select good beef.
cookin is the level of interest an individual has in cooking.

beefin is the level of interest an individual has in beef.

consis is the level of perceived consistency associated with beef.

conf is the level of confidence an individual has in independent butchers.

exper is the level of experienced based on age and frequency of consumption.

And where b1 to b6 are the variable coefficients and U is the random disturbance term.

The regression analysis using the individual risk facets as the dependent variable suggests that the significant contributors to perceived risk vary based on the risk facet under investigation. Table 3 presents the beta scores for the regression models.

Table 3: Determinants of perceived risk: risk facet level

Models (P×I)	Adj. R^2	F-stat.	Ab[1] Beta	BI[2] Beta	CI[3] Beta	Con.[4] Beta	Conf.[5] Beta	Exp[6] Beta
Psychological[7]	0.273	32.118	-0.342**	-0.094*	-0.087*	-0.228**	-0.122**	-0.173**
Safety	0.187	19.996	-0.261**	-0.253**	-0.063	0.033	-0.132**	-0.045
Health	0.119	12.239	-0.197**	-0.170**	-0.067	-0.011	-0.163**	-0.099*
Performance	0.196	21.175	-0.272**	-0.254**	-0.068	-0.023	-0.169**	-0.026
Financial	0.229	25.565	-0.412**	-0.013	-0.016	-0.159**	-0.113**	-0.116**
Social	0.395	54.294	-0.410**	-0.347**	-0.111**	0.054	-0.024	-0.032

[1] Ability, [2] Beef interest, [3] Cooking interest, [4] Consistency, [5] Experience, [6] Confidence, [7] + significant at the 93% level, *significant at the 95% level, ** significant at the 99% level

In all of the regression models tested the F-statistic is significant, however this is considerably higher for social risk than for all other models. Furthermore, the psychological risk and financial risk models display better fits than the remaining three models. An examination of the significant contributors to perceived risk at facet level again highlights the importance of perceived ability where in all cases increased perceived ability resulted in reduced perceived risk. Confidence in the independent butcher had a significant impact on all risk facets except social risk, while interest in beef is significantly correlated to all risk facets except financial risk. Perceived consistency is significant in both the psychological and financial risk models, experience is significant in the psychological, health and financial models and cooking interest is significant in the psychological and social model.

It would appear that perceived ability, confidence in the independent butcher and interest in beef are key determinants of level of risk perceived for most risk facets, while cooking interest, experience and consistency are more likely to influence the level of perceived risk for a select few risk facets. For example cooking interest impacted upon the social and psychological risk, suggesting that those with an interest in cooking perceive less social and psychological risk for beef. This suggests that those with an interest in cooking are less worried about feeling foolish as a result of preparing a bad meal. This analysis provides support for hypothesis 1 and suggests that consumers distinguish, to some extent, between types of risk.

Eight risk relievers that have been linked to the selection of beef are used to assess if risk reduction behaviour varies based on consumer perception of self, product and the environment. Risk reliever use was measured by asking respondents to indicate the degree to which they used each risk reliever to reduce the perceived risk at facet level. A score, reflecting the level and frequency of use of each risk reliever was then obtained by adding the scores obtained for the risk reliever on each risk facet. In other words, all of the scores assigned for use of the risk

Table 4: Mean score for use of risk relievers for total sample and by tertile

	Sample Mean[1]	Std. Deviation	Tertile 1 mean	Tertile 2 mean	Tertile 3 mean
Location	17.34	6.46	9.68	18.39	23.68
Colour	12.27	6.59	4.81	12.51	19.43
Country of Origin	12.10	8.37	2.51	12.41	21.56
Quality Marks	10.39	7.82	1.14	10.34	19.60
Fat	10.36	6.72	2.71	10.41	17.53
Label	10.16	8.08	0.66	10.41	19.70
Price	9.36	7.16	1.51	8.86	18.05
Butcher Advice	7.50	6.04	1.40	7.16	14.83

[1] Minimum score 0, Maximum Score 24

relievers were summated. This provided a composite score for the use of each risk reliever. The minimum value was zero (did not use the cue at all) and the maximum was twenty four (relied substantially on the cue). The mean scores for the risk relievers were calculated and are presented in Table 4. To investigate the impact of consumer experience and perceptions on risk reduction behaviour the scores for use of each risk reliever were used to create tertiles (see table 3 for tertile mean scores). Thus respondents were grouped into high, average or low use of a risk reliever. ANOVA analyses with the post hoc bonferroni were used to assess if perceived ability, interest in beef, interest in cooking, confidence in the independent butcher, consistency and experience differ significantly across the groups based on level of use of each risk reliever. Table 5 presents these findings.

Those who have more confidence in the independent butcher, perceive greater ability and are more interested in cooking, use butchers advice less frequently than those who lack interest in cooking, have less perceived ability and confidence in the independent butcher. The use of colour did not differ greatly based on the determinants; in fact the only significant difference observed was linked to level of interest in cooking. Customers most interested in cooking rely less on colour than those less interested in cooking. Those who are interested in cooking and those who lack confidence in the local butcher use fat as a risk reliever less frequently (lowest tertile) than those who are least interested (highest tertile) and have more confidence in the local butcher (middle and highest tertile). Interestingly, it was the middle tertile for use of fat as a risk reliever that were least interested in beef.

The level of use of price was linked to cooking interest, ability and experience. Those who use price least perceive greater ability and have greater experience than the other two tertiles. While those who use price the most are least interested in cooking. The use of quality marks was particularly interesting as the level of use was significantly different across all of the determinants under investigation except interest in beef. The lowest tertile perceived less ability, have less confidence and believe that beef is more consistent than the other two tertiles. The tertile that uses quality marks least are also more experienced, than those who use them the most. The level of use of Country of Origin was linked to ability and again those who use country of origin least frequently were those with greatest perceived ability. It is noteworthy that the relationship with location was very different to those presented above. In fact those who use purchase location most (highest tertile) are more interested in beef, displayed greater perceived ability and believe that beef is more consistent that those who use it to a lesser extent (middle and lowest tertile). Furthermore those who use location least (lowest tertile) have less

Table 5: Use of risk relievers and the determinants of perceived risk

Anova	Tertile differences			Mean diff.	P-value	Meaning
Location	Interest in Beef	Highest	Lowest	-0.2826	0.007	Highest tertile are more interested in beef than the middle or lowest tertile.
			Middle	0.2829	0.020	
	Ability	Lowest	Highest	-0.4929	<0.001	Lowest tertile perceive less ability than middle and highest tertile.
			Middle	-0.3417	0.005	
	Confidence	Middle	Highest	0.4402	0.023	Middle tertile are more confident than highest tertile.
	Consistency	Highest	Lowest	0.7831	<0.001	Highest tertile believe that beef is more consistent than the middle or lowest.
			Middle	0.686	<0.001	
	Experience	Lowest	Middle	-28.91	0.002	Lowest tertile is less experienced than middle tertile
Colour	Cooking	Lowest	Highest	0.2856	0.025	Lowest tertile are more interested in cooking than highest tertile.
COO	Ability	Lowest	Middle	0.4300	<0.001	Lowest tertile perceive greater ability than middle tertile.
QM	Cooking	Highest	Lowest	-0.4395	<0.001	Highest tertile are less interested in cooking than middle or lowest tertile.
			Middle	-0.3775	0.001	
	Ability	Lowest	Highest	0.4782	<0.001	Lowest tertile perceive greater ability than middle and highest tertile.
			Middle	0.2889	0.028	
	Confidence	Lowest	Highest	-0.6579	<0.001	Lowest tertile have less confidence than the middle or highest tertile.
			Middle	-0.5199	0.004	
	Consistency	Lowest	Highest	0.4339	0.003	Lowest tertile believe that beef is more consistent than the middle or highest.
			Middle	0.5208	<0.001	
	Experience	Lowest	Highest	24.86	0.003	Lowest tertile are more experienced than the highest tertile.
Fat	Cooking	Lowest	Highest	0.3143	0.01	Lowest tertile are more interested in cooking than highest tertile.
	Confidence	Lowest	Highest	-0.4018	0.037	Lowest tertile have less confidence than the middle or highest tertile.
			Middle	-0.3786	0.075	
	Interest in beef	Middle	Highest	-0.4059	0.001	Middle tertile have less interest in beef than the highest or lowest tertile.
			Highest	-0.3280	0.006	
Labels	Ability	Lowest	Highest	0.4815	<0.001	Lowest tertile perceive greater ability than middle and highest tertile.
			Middle	0.4429	<0.001	
	Confidence	Lowest	Highest	-0.7202	<0.001	Lowest tertile have less confidence than the middle or highest tertile.
			Middle	-0.4977	0.006	
	Consistency	Lowest	Highest	0.4362	0.003	Lowest tertile believe that beef is more consistent than the middle or highest
			Middle	0.4792	0.001	
	Experience	Lowest	Highest	24.92	0.008	Lowest tertile are more experienced than the highest tertile.
Price	Cooking	Highest	Lowest	-0.4146	0.001	Highest tertile are less interested in cooking than middle or lowest tertile.
			Middle	-0.2562	0.06	
	Ability	Lowest	Highest	0.4257	<0.001	Lowest tertile perceive greater ability than middle and highest tertile.
			Middle	0.2934	0.02	
	Experience	Lowest	Highest	19.85	0.05	Lowest are more experienced than the middle or upper tertile.
			Middle	26.42	0.003	
Butchers advice	Cooking	Lowest	Highest	0.2951	0.02	Lowest tertile are more interested in cooking than highest tertile.
	Ability	Lowest	Highest	0.4160	<0.001	Highest tertile perceive lower ability than middle and lowest tertile.
			Middle	0.3352	0.008	
	Confidence	Lowest	Highest	0.4644	0.013	Lowest tertile have more confidence than highest tertile.

experience than those in the middle tertile. However location is an important risk reliever for all respondents.

CONCLUSION

This investigation suggests that the significant contributors to perceived risk vary by risk facet under investigation but ability, interest in beef and confidence in local butcher were significant in almost all models. Thus concentrating on activities that improve perceived ability and confidence in the supplier should help reduce risk. This type of activity should help in the

reduction of perceived risk associated with a number of facets, but this also highlights the need to ensure that communication deals with the broad issues that make up perceived risk.

It is very clear from this analysis that respondents' experience and perception of self, perceptions of the product and perception of the environment impact on the level of use of risk relievers. When we consider the person related factors of experience and perceived ability some specific behaviours emerge. The less experienced customers use the extrinsic cues quality marks and price more than the more experienced customers, but they use location less. Similarly, perceived ability was linked to all of the extrinsic risk relievers investigated; those with lower perceived ability use butchers' advice, price and quality marks more than those with greater experience, but they also use location less.

Table 6: Summary of risk reliever use and determinants of perceived risk

	Experience	Consistency	Cooking	Beef	Ability	Confidence
Butchers advice			---		---	---
Colour			--			
Fat			---	+-+		+++
Price	---		---		---	
QM	---	---	---		---	+++
COO					---	
Location	+++	+++		+-+	+++	-+

When considering perception of the product we again see that the behaviour difference; those who perceive that beef is consistent use quality marks less and location more than those who perceive it as less consistent. Finally when we consider the environment we can again observe some difference in behaviour based on perception of the butcher. Confidence in the butcher was linked to the use of the intrinsic cue fat and the extrinsic cues butchers' advice, quality marks and location. Those with more confident sought less advise and also used fat and quality marks more than those with less confidence. Table 6 summarises the relationships between the variables.

Thus location, as a risk reliever, is very important and takes on the role of a brand where a strong manufacturer brand does not exist. Generally, it appears that those who are confident in their own ability are in fact using their purchase location to help in the selection of a product that meets their purchase requirements.

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