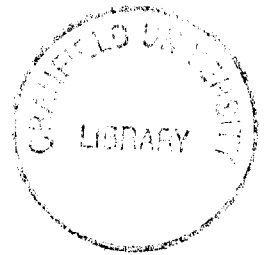




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**SWP 7/94 REASONED ACTION THEORY APPLIED TO THE
PREDICTION OF OLIVE OIL USAGE**

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ABSTRACT

Perceived benefits to health, holidays in southern Europe and increasing culinary sophistication have all contributed to the growth in popularity of the Mediterranean diet in the United Kingdom. This study, part of a programme of research investigating the diffusion of the Mediterranean diet, is concerned with consumers' attitudes towards the consumption of olive oil - UK sales of which increased by 158% in real terms between 1986 and 1992.

The study was designed to establish the salient attitudinal and normative beliefs which consumers associate with olive oil, and to assess the value of those beliefs as predictors of behaviour in respect of olive oil usage. Ajzen and Fishbeins' (1980) theory of reasoned action was used as the methodological base. Data were collected by means of a questionnaire completed by 151 subjects. Attitudinal beliefs, especially those concerning flavour enhancement, were found to be important predictors of olive oil usage, casting doubt on the assumption that increased UK olive oil consumption results from its perceived health benefits. As with many food choice studies normative beliefs were found not to be useful indicators of behaviour. The absence of normative pressures and the strong influence of beliefs regarding flavour suggest the possibility that the addition of a measure of involvement may increase the efficacy of the model in respect of food choice decisions.

INTRODUCTION

In 1970 the well known 'seven countries' study showed that cardiovascular mortality was lower in Mediterranean countries than in northern Europe and the USA and established the correlation between diet, cholesterol levels and the incidence of cardiovascular disease (Keys 1970). In Britain the COMA Report on diet and health recommended that consumption of both saturated and polyunsaturated fats should be reduced and olive oil, with its high content of monounsaturates, was increasingly recognised as part of a healthy diet (Department of Health 1984). During the same period of time rapid growth in tourism resulted in increased exposure to Mediterranean food, and the combination of these factors lent impetus to the growth of olive oil consumption in the United Kingdom and other northern countries. Consequently, United Kingdom sales of olive oil increased by 72% in volume and 158% in real value terms between 1986 and 1992 (Mintel 1992).

Despite this rapid growth in consumption the culinary use of olive oil is still relatively new to British consumers and very little research has been published on either the consumer or the supply side of the market. This paper, part of a wider programme of research into diffusion of the Mediterranean diet in the United Kingdom, addresses the former.

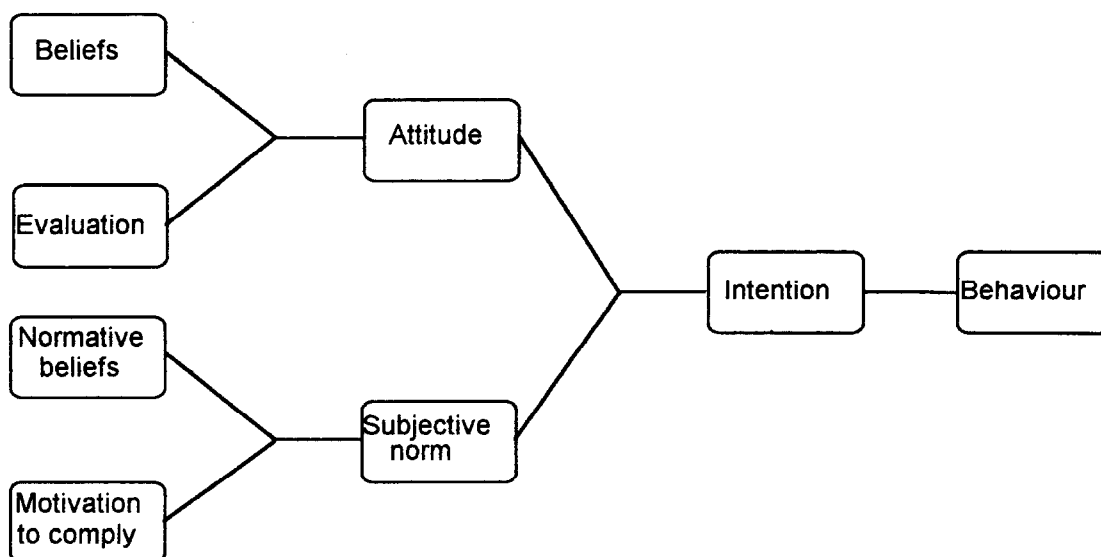
The objectives of this study were firstly to assess the efficacy of the theory of reasoned action as a predictor of olive oil usage, and secondly to establish the salient attitudinal and normative factors associated with olive oil usage.

THE THEORY OF REASONED ACTION

Ajzen and Fishbeins' (1980) theory of reasoned action, has been extensively applied to food studies and has been shown to have good predictive power. (see; Saegert and Young 1983; Shepherd and Stockley 1985a, b; Tourila-Ollikainen, Lahteenmaki and Salovaara 1986; Matheny, Pacciano and Birch 1987; Shepherd and Stockley 1987; Tourila and Pangborn 1988a, b; Wurtele 1988; Rutter and Bunce 1989; Sapp and Harrod 1989; Saunders and Rahilly 1990; Sapp 1991; Towler and Shepherd 1992)

The theory, an extension of Fishbein and Ajzens' (1975) earlier work on expectancy-value models of attitude, is concerned with rational volitional behaviour - that is to say behaviours over which the individual has control. The model evaluates consumers' attitudes towards an action (e.g. eating, purchasing) rather than their attitudes towards the object itself. Yet positive attitudes towards an object, say a Rolls Royce, may well *not* be translated into the action of purchase, because of (e.g.) cost. Therefore, a model which evaluates attitudes towards a specific behaviour (in this case act of using olive oil) is particularly useful in a marketing context. A schematic representation of the theory of reasoned action model is shown in figure 1 below. The model predicts behaviour by intention to perform the behaviour. This is decomposed into two components - attitude towards the behaviour and subjective norm, which are in turn decomposed into their component parts: Attitude towards the behaviour is predicted by salient beliefs about the outcome of a behaviour, weighted by an evaluation of the importance attached to those outcomes. Subjective norm is predicted by normative beliefs about what salient referents would advise, modified by respondents' motivation to comply with the advice of those referents. All components of the model are measurable on bi-polar scales administered by questionnaire.

FIGURE 1: A Schematic Representation of The Theory of Reasoned Action.



In proposing the theory of reasoned action Ajzen and Fishbein (1980) argued that it provided a complete explanation of volitional control, and that the addition of other variables would not significantly enhance the prediction of behavioural intention. Nevertheless, a number of additional components have been proposed, such as perceived moral obligation (e.g. Beck and Ajzen, 1991), past behaviour (e.g. Bentler and Speckart, 1979), habit (e.g. Tourila and Pangborn, 1988) and self identity (e.g. Biddle, Bank and Slavings, 1987). Perhaps the most significant of these proposed additions involves the influence of perceived behavioural control initially proposed by Ajzen (1985) in his theory of planned behaviour. However, this approach has been criticised by Fishbein and Stasson (1990), and Ajzen (1988) acknowledges that problems associated with this extension to the model have yet to be extensively investigated. In the context of food choice behaviour Sparks, Hedderley and Shepherd (1992) conclude that perceived control is likely to prove applicable to those classes of action where volitional choice is significantly impeded. Since the initial stages of this study indicated that volitional choice of olive oil usage was not 'significantly impeded' perceived behavioural control was not measured. A healthy debate about additions and modifications to the theory of reasoned action continues; other criticisms include limited applicability (e.g. Sarver, 1983) and conceptual problems (e.g. Laljee, Brown and Ginsburg, 1984). Meanwhile, the basic proposals of the model have received widespread empirical corroboration (see e.g. Ajzen and Fishbein 1980; Sparks, Hedderley and Shepherd 1992).

METHOD

Elicitation of Salient Beliefs and Referents.

Semi-structured pilot interviews with 15 consumers were conducted in accordance with the procedures suggested by Ajzen and Fishbein (1980). Seventy five percent of the respondents were female, and 64% were in the 25 - 44 year age group. From these, five salient beliefs and three referents were selected for inclusion in the main questionnaire (table 1).

TABLE 1 Salient Beliefs and Referents.

BELIEFS

- 1) Olive oil improves the taste of salads
- 2) Olive oil improves the taste of cooked meals
- 3) Olive oil is more healthy for me and/or my family
- 4) Olive oil is expensive for what it offers
- 5) Olive oil is for special occasions

REFERENTS

- 1) Family and relatives
- 2) Friends
- 3) Guests

These pilot interviews revealed confusion about the terms polyunsaturated and monounsaturated, and how these related to olive oil. Consequently, these terms were avoided in the questionnaire.

Subjects

Following the pilot interviews a questionnaire was constructed, pre-tested and sent with a covering letter to 400 households in randomly selected streets in London (St Johns Wood) and in Bedfordshire. One hundred and fifty one (38%) of these were returned in pre-paid envelopes. The sample was weighted towards women (61%), in the heaviest user group of 25 - 44 year olds, who made up 60% of respondents compared to 29% nationally (Mintel 1992). The over-65 group (according to Mintel the lightest user group) were under-represented. The rest of the age distribution approximated very closely to that of the United Kingdom as a whole. Most of the respondents (76%) were users of olive oil in the home; however, as the sample is skewed towards the heavier users this figure cannot be generalised to the population as a whole (table 2). In the event the sample was adequate for the purpose of this study. However, use of a stratified quota sample will reinforce the rigour of future studies.

Table 2: Subjects by Age, Sex and User Status.

Sex	%
Male	39
Female	61
Age	
18-24 years	15
25-34 years	27
35-44 years	33
45-54 years	13
55 - 64 years	10
over 65 years	2
User status	
users	76
Non-users	23

Questionnaire

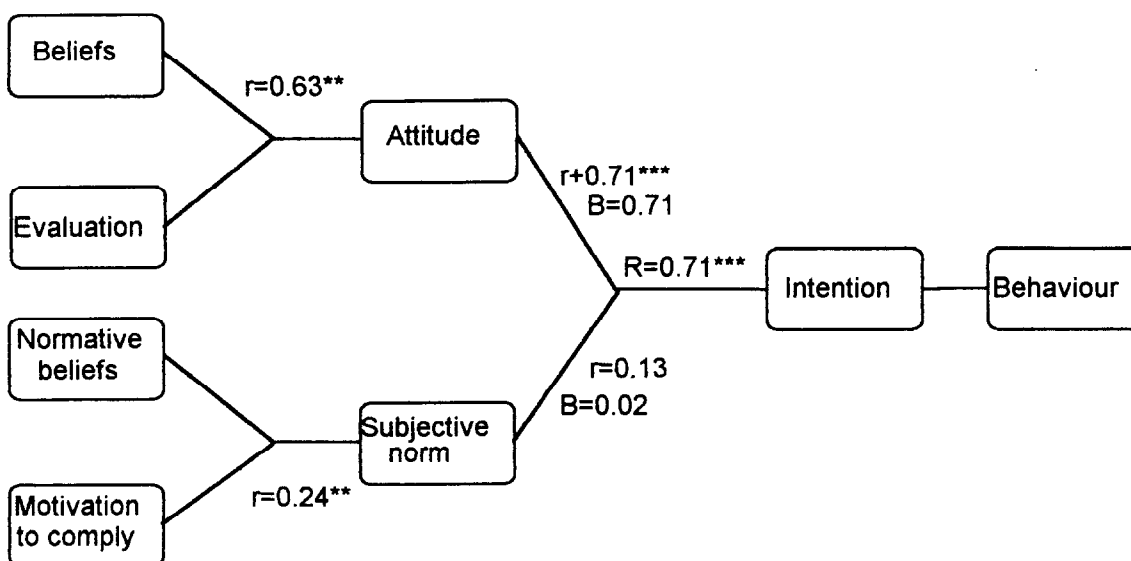
The questionnaire included demographic questions on age, sex, income and education. The main body of the questionnaire consisted of the following measures:

- Five 'belief' items (e.g. 'Would you say that using olive oil improves the taste of salads?') which were accompanied by a seven point rating scale ranging from 'totally agree' to 'totally disagree'
- Five corresponding outcome evaluations (e.g. 'Improving the taste of salads is...') which were accompanied by a seven point rating scale ranging from 'extremely good' to 'extremely bad'.
- Five items designed to assess attitude via seven point semantic differential scales (Using olive oil is... e.g. 'good-bad', 'useful-useless').
- A measure of subjective norm ('Most people who are important to me think I should use olive oil') accompanied by a seven point rating scale.
- A measure of normative beliefs for each of three salient referents (e.g. 'My family think I should use olive oil') accompanied by a seven point rating scale.
- A measure of motivation to comply with salient referents for each of three salient referents (e.g. 'To what extent do you wish to fit in with what the following people think you should do?') accompanied by a seven point rating scale.
- A measure of current behaviour ('Do you use olive oil?') Yes/No.
- A self report measure of behavioural intention ('All things being considered what are the chances of you using olive oil in the next month?') accompanied by a seven point rating scale.

RESULTS

Responses measured on 7 point scales were scored +3 to -3, except for the motivation to comply questions which were scored 0-6 as it is argued that these measures are uni-polar rather than bi-polar constructs (Ajzen and Fishbein 1980). Statistical analysis was carried out using SPSS PC software (SPSS Inc., Chicago, Ill., USA) on an Elonex PC-425X computer. Data were combined using the formula from Ajzen and Fishbein (1980). Each belief response (*b*) was multiplied by the appropriate evaluation score (*e*) and the products were summed (Σbe). The attitude components were summed to give a total attitude score (*Aact*). Normative belief responses were multiplied by the corresponding motivation to comply responses (*NB*) and the products summed (*NBMc*). Simple correlation (Pearson correlation coefficients) and multiple regressions were used to assess the degree of association between the components (figure.2).

FIGURE 2: Correlation Between Components of the Theory of Reasoned Action.



(*** $P = <0.001$ ** $P = <0.01$ $n = 151$)

The findings support the basic structure of the theory of reasoned action. Multiple regression analysis of the full model yielded $R = 0.71$ ($P = <0.001$), and adjusted $R^2 = 0.50$. The sum of belief-evaluation products (Σbe) correlated significantly with the attitude measure ($Aact$) ($r = 0.63$, $P = <0.01$) and the attitude measure ($Aact$) in turn correlated significantly with the intention to use olive oil ($r = 0.71$, $P = <0.001$). However, inclusion of the measure of attitude of others (subjective norm) did not add significantly to the prediction of intentions.

DISCUSSION

The model showed good prediction of reported intention to use olive oil. The outcome of $R = 0.71$ ($P = <0.001$) compares favourably with the estimate of an overall result of $R = 0.66$ from two meta analyses conducted by Sheppard, Hartwick and Warshaw (1988) which covered 87 studies with over 12,000 subjects.

The behavioural beliefs most closely related to intention were those regarding improvement to the taste of both salads and cooked meals. These beliefs appear to account for most of the attitudinal difference between users and non-users (table 3). However, the data regarding non-users is weak.

The rapid growth in U.K. olive oil consumption is often attributed to healthy eating and avoidance of saturated fats. However, this does not seem to be the main issue for users or for non-users. The attributes most strongly correlated with olive oil usage were both related to the belief that olive oil improves the taste of meals (table 3). Both price and special occasion usage are negatively correlated for users. That is to say, those who use olive oil consider it to be neither too expensive, or for special occasions only.

TABLE 3: Correlation Coefficients, Sum of Beliefs-Evaluation v Behavioural Intent.

Beliefs About Olive Oil Use	All Subjects***	Users Only***	Non-users Only
Improves taste of salads	0.6167	0.4000	0.1457
Improves taste of cooking	0.5845	0.4444	0.1682
Is healthier	0.5033	0.3518	0.1683
Is expensive	-0.1075	-0.1486	0.0852
Is for special occasions	-0.2990	-0.3498	0.0463

*** P = <0.001

The belief-evaluation variables were correlated in order to assess the extent of inter-correlation (table 4). The correlation between variables was generally found to be of a low order which indicates their independence from each other. The exception to this was the two beliefs regarding flavour enhancement, which were, not unexpectedly, measuring much the same thing (table 4).

Table 4: Intercorrelation (r) Between Belief-Evaluation Variables.

Variable	Taste Salads	Taste Cooking	Healthier	Expensive	Special Occasions
Taste Salads	1.00	0.61**	0.13	0.22*	0.27**
Taste Cooking	0.61**	1.00	0.25*	0.18	0.17
Healthier	0.13	0.25*	1.00	0.23*	0.14
Expensive	0.22*	0.18	0.23*	1.00	0.29**
Special Occs.	0.27**	0.17	0.14	0.29**	1.00

One tailed significance * = <0.01 ** = <0.001

In common with several other food choice applications of the theory, subjective norm was not found to be a good predictor of behavioural intention (Shepherd and Stockley, 1985(b) & 1987; Tourila, 1987; Rutter and Bunce, 1989; Shepherd, 1989; Sparks, Hedderley and Shepherd, 1992). This outcome may be due to a low level of involvement with the act, which Ajzen (1988) feels is a strong influence on the likelihood of people acting upon their

attitudes. In respect of food choice, Rutter and Bunce (1989) also postulate that habitual behaviour such as eating and drinking may be of such low involvement that little normative pressure occurs. However, the degree of involvement may vary substantially between individuals

CONCLUDING REMARKS

The current study reaffirms the efficacy of the theory of reasoned action as a predictor of food choice. Analysis of the aggregated data revealed a strong correlation between attitude-evaluation of attributes and behavioural intention. The disaggregated data provided evidence of attitudinal-behavioural consistency with use or non-use being strongly related to attitudes, especially those concerning the flavour enhancing attributes of olive oil. Health attributes were also found to be an important, but lesser, predictor of usage, which calls in to question some of the assumptions about reasons for growth in olive oil consumption (Mintel 1992).

In common with other studies of food choice normative social factors were not found to be a good indicator of olive oil usage. This may be because food choice is a relatively low involvement decision. However, it may be that in food choice decisions involvement is a determinant factor of the extent to which positive attitudes are translated into action. Work is currently in hand to test whether the inclusion of a measure of involvement increases the predictive power of the theory reasoned action.

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