

PSYCHOLOGICAL MODELS OF FOOD CHOICE

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Understanding consumer food choice is of crucial importance to agricultural producers, manufacturers and retailers. It is also important for those involved in nutrition, health promotion and in the formulation of health and nutrition policies.

However, human food choice is a complex phenomenon influenced by a wide range of factors, including properties of the foods, factors related to the person making the choice, and social and economic influences. A major problem in trying to understand human food choice involves the attempt to unravel the influence and relative importance of these factors. A number of models have been put forward for trying to understand the role played by these different types of factors (e.g. Khan, 1981; Randall & Sanjur, 1981; Shepherd, 1985). There are several problems with such models: they are not quantitative; they do not attempt to explain likely mechanisms; they do not quantify the relative importance of factors; they do not explain how factors are likely to interact. Thus such models are really only catalogues of the likely influences. As such they can be useful in pointing to the variables to measure in studies in this area but they do not offer a framework within which to design such studies or a basis upon which to build theories of human food choice. Such models have been reviewed by Shepherd (1989).

An alternative approach is to try adapting models of behaviour developed in the behavioural sciences to the issue of food choice behaviour. Again there are several types of approach, although the most commonly used have been those adapted from social cognitive theory (Bandura, 1986) or from the theory of reasoned action (TRA) and its extension in the form of the theory of planned behaviour (TPB) (Ajzen, 1988). These models provide clearly defined frameworks for measuring and quantitatively relating beliefs, attitudes, intention and

behaviour. The TRA and TPB have proved successful in many applications in the food choice area but there are a number of shortcomings in their conceptualisation and implementation. This has led to a number of suggested modifications and extensions. Two such extensions will be described applied to issues of food choice.

One recent suggested modification to the TPB is that a person's self-identity may influence behaviour independently of his or her attitudes. An example of evidence for such a modification is in the field of blood donation, where a person's identification of him or herself as a blood donor is a predictor of intention to donate blood over and above the effects of the person's own attitude towards blood donation. These findings are surprising since if a person identifies him or herself as a blood donor this would be expected to be reflected in favourable attitudes towards blood donation, rather than giving an effect on intention independent of attitude.

The inclusion of self-identity in the TPB was investigated in a study of the consumption of organic vegetables (Sparks and Shepherd, 1992). In addition to the basic components of the TPB, self-identity questions were included which related to people seeing themselves as 'green consumers'. A multiple regression tested the hypothesis that 'green identity' would not add to the prediction of intentions over and above the contributions of the other components. As expected, attitudes, subjective norm and perceived control all revealed independent effects but there was also a highly significant effect for 'green identity'. One possible reason for 'green identity' having such an independent effect is that the people were using this as a proxy for past behaviour, i.e. inferring their self-identity response from an examination of past behaviour, and past behaviour has been found to be a powerful predictor of both intention and future behaviour. However, adding responses on past behaviour into the above regression showed that the measure of self-identity was still an independent predictor of intention thus arguing against this interpretation of the effect.

The reason why self-identity should have such an independent effect is not entirely clear (Sparks and Shepherd 1992), although it may reflect the inability of current measures of attitude adequately to assess various symbolic and emotional factors which might nonetheless

influence intention and behaviour. Extensions of this kind to the basic model offer a potential means towards a better understanding of the different factors determining food choice.

Another aspect of behaviour not well covered by existing components of the TPB is that of moral or ethical concerns. In its basic form the model is purely utility based with behaviour leading to outcomes which are seen as beneficial or not. However, there are some behaviours where moral considerations might also have a significant impact, irrespective of beliefs about outcomes. Moral obligation has been investigated in studies outside the food area, primarily on behaviours such as stealing or cheating which have a very obvious moral component. In such cases it has been found to add significantly to the predictive power of the basic TPB. Although food choice is a less obvious domain within which such factors might operate there are nonetheless particular instances where moral or ethical issues might be of some importance. These include those instances where decisions are made on behalf of others, and the application of new techniques to food production (e.g. genetic engineering) which might be considered to have a significant moral dimension.

Moral obligation for the health of the family has been examined in a study of the consumption of different types of milks (Raats, Shepherd and Sparks, 1995). Two hundred and fifty seven people completed a questionnaire on the consumption of whole, semi-skimmed and skimmed milk. In addition to questions assessing the components of the TPB there was one question for each type of milk: 'I feel obliged to use (skimmed) milk for my family's health' which was taken as a measure of moral obligation. For each type of milk the basic model was shown to give a reasonable degree of prediction of intention. When the responses on obligation for family's health were added into the regression predicting intention, this led to small but significant increases in prediction for whole and semi-skimmed milk but not for skimmed milk. If, however, we consider the obligation component as feeding into attitude, as an addition to beliefs and evaluations, then the measure of obligation for family's health adds an independent effect and is highly significant for each type of milk.

Ethical concerns associated with genetic engineering were investigated in a study by Sparks, Shepherd and Frewer (1995). A questionnaire was designed following the basic

structure of the TPB, along with two questions measuring perceived ethical obligation: 'I feel that I have an ethical obligation to avoid eating food produced by gene technology' and 'I feel that I have an ethical obligation to support the use of gene technology in food production' (both with responses from 'disagree very strongly' to 'agree very strongly'). One was framed positively and the other negatively so as not to suggest that ethical and moral issues can only be negative and also to determine whether ethical issues have the same impact when presented positively. Multiple regression analysis showed that people's expectations of (i) supporting the technology and (ii) consuming food produced by the technology could be predicted from their attitudes. These attitudes, in turn, could be predicted, not only from a consideration of the perceived tangible advantages and disadvantages of the technology but also from a consideration of people's levels of ethical concern.

A second study essentially replicated these findings but looked at specific applications of the technology. These were pork produced using genetically engineered growth hormone and genetically engineered tomatoes. In this study, each person generated his or her own set of beliefs and it was this set of beliefs that the person then received in the questionnaire rather than a set of modal beliefs derived from pre-interviews. The method used here would then be expected to give the highest estimate of the impact of belief-evaluations on attitude. Even in this case perceived ethical obligation had a significant independent effect both for attitudes towards purchase of the pork and attitudes towards purchasing the tomatoes.

It would therefore appear that moral obligation is important but that its position within the model does not lie at the level of being an extra predictor of intention but rather is a stage further back in feeding into attitude in addition to belief-evaluations about the outcomes of the behaviour. Such questions on moral obligation appear to tap something which is not measured using the questions on beliefs about instrumental outcomes of actions. While this has previously been shown to be true for behaviours with an obvious moral component such as stealing or cheating, this is a demonstration of the importance of this type of component in the choice of foods where issues of moral obligation are less clear. Like perceived control or self-identity it is unlikely to be important for the choice of all types of foods in all contexts but it

may be particularly important where food choices are made on behalf of others. This issue is explored further in the following section.

The component of perceived control which has been introduced into the TPB extends its applicability from solely volitional behaviours to include non-volitional behaviours, goals and outcomes. Although perceived control has been found to be important in a number of food choice applications there are problems with its measurement. Perceived control is typically measured by summing items (normally 3 or 4 questions) which ask people to make judgements regarding the amount of control they have over a behaviour or the amount of difficulty they experience in carrying out the behaviour. However, there is often poor inter-item reliability between such items.

These issues have recently been addressed in studies examining people's consumption of red meat and chips. Using perceived control questions taken from the literature, TPB questionnaires were administered to two groups of subjects (Study 1, n=91; Study 2, n=97). Principal components analysis of the perceived control items revealed a distinct split between the different kinds of items, with items measuring 'difficulty/ease' issues loading on one factor, and items measuring 'control' issues loading on a separate factor. The analysis also found that measures of 'difficulty/ease' had a greater predictive effect on intention than measures of 'control'. These findings support the argument for a redefinition of the perceived control component, allowing improved methods of measurement to be developed.

There are a number of outstanding issues in the application of these types of models to food choice. There is currently little understanding of the importance of the context within which the choice is made. Also attitudes and beliefs are sometimes not simply positive or negative but rather people hold ambivalent attitudes and the effects of such inconsistencies need to be understood, as does the relative importance of affect and cognition in determining attitudes and behaviour. Finally, although food choice models tell us something about what is currently influencing people's choices of food their usefulness in affecting changes in food choices and dietary behaviour remain to be investigated.

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