

# MOTIVATING FARMERS: INSIGHTS FROM SOCIAL PSYCHOLOGY

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## Introduction

We are social beings. What we do and don't do, what we think, the decisions we take are all influenced by those around us. Sometimes we are conscious of those influences, often we are not. Those who influence us are not just our close family and friends, our own social and professional networks, but the wider societies and cultures to which we belong. The goals we espouse, the values we hold, the image we have of ourselves are all molded to a large extent by our interactions and relationships with other people. The social sciences offer a range of concepts and tools for exploring these influences. In this paper, I introduce some of these and illustrate them with recent research I and my colleagues have been doing at the University of Reading among livestock farmers in the UK, with a view to providing insights that can then be used to plan and implement more effective interventions.

## Behavioral Types

Social scientists have been identifying typologies of farmers, based on their motivations, objectives, values, attitudes and behaviour, since the 1920s. Ashby's (1926) study identified four main groups of motivations among farmers: a desire for economic advantage / a fear of economic need; a hope of reward / fear of punishment; a feeling of honor, striving for recognition / fear of shame; and, a need for occupation and pleasure in activity. More recent studies have based their typologies on the values that farmers hold, which are commonly identified through questionnaire responses to a range of statements about what is important to the respondent. Ruth Gasson's classic study in 1973 identified four broad 'value orientations': 'instrumental' (to do with making money, expanding the business), 'social' (gaining prestige, supporting the family, maintaining a tradition), 'expressive' (self-respect, creativity, responding to challenges) and 'intrinsic' (independence, enjoyment of work tasks, lifestyle preference) (Gasson 1973:527). Her research showed that the predominant value orientation among UK farmers in the early 1970s was the intrinsic, indicating clearly that maximizing profit is not necessarily the dominant motive even for farmers operating in a highly commercialized agriculture.

In 2006, we completed a study for the UK Department for Environment, Food and Rural Affairs (Defra) which was commissioned to explore how information on farmers' behaviour and motivations could be built into policy models which until now have been largely based on profit or utility maximizing assumptions (University of Reading 2006). One question we wanted to address was whether farmers' likely response to policy changes differs between farmers with different sets of values, attitudes and objectives. Fifty one statements were put to farmers in a postal questionnaire. Respondents were asked to indicate the importance to them of 25 value statements and their agreement or disagreement with 26 statements relating to objectives in

farming, using a nine point Likert scale. Responses were then subject to Principal Component Analysis which identified 16 factors; subsequent Cluster Analysis on these factors revealed the five distinct categories of farmer shown in Table 1.

**Table 1 Farmer behavioral types derived from Cluster Analysis**

		% of sample ( <i>n</i> =683)
1	Family orientation	29.6
2	Business / entrepreneur	25.9
3	Enthusiast / hobbyist	16.6
4	Lifestyler	21.5
5	Independent / small farmer	6.4

Source: University of Reading 2006

Farmers in the family orientation category are very sensitive to environmental issues. “Stewardship”, “working alongside family” and “passing on a viable business to the next generation” receive priority over other factors and this group tends to be content with the prevailing institutional and communal outlook on farming and they don’t feel neglected or marginalized.

The business /entrepreneurs have high scores on several of the factors that reflect success in business. They view farming as a business and approach it professionally, scoring high on “quality of achievement”, “expansion”, “investment”, “debt avoidance” and “staff management”. They feel, however, that they have been marginalized despite doing a worthwhile job in the community, leading to dissatisfaction with the present state of affairs in the industry.

The enthusiast/hobbyist’s main occupation and source of income is something other than farming. This group has high scores on “diversification” combined with low scores on “profit” and financial aspects. Simultaneously high scores on “quality of life” and “leisure” suggest they are more concerned about reducing work load and spending more quality time with family and friends away from the farm. This group farms because of the intrinsic values attached to farming as reflected in the “job satisfaction” factor.

The life-styler scores high on “family standard of life”, suggesting that the objective for being in farming is to increase family income to maintain and/or increase “family’s standard of living”. At the same time there are high scores for “quality of life” and “leisure”, indicating that these farmers balance high income with reduced work load and quality time with family and friends. This group scores highly also on future “security /investment” and “staff management”. A low level of job satisfaction is expressed and there is an awareness of and a concern for the uncertainty associated with farming. A high score for “marginalization” suggests that this group feels let down by the government and society at large.

The independent/small farmer also records high scores on “family standard of living”, but unlike the life-styler group, low scores for “quality of life” and “leisure” are in contrast to the high scores for “job satisfaction” and “independence”, indicating the emotive value of farming and the intrinsic nature of these influences. The members of this group are rather indifferent to “profit” and “financial” aspects, reinforcing the impression that their reasons for farming are more intrinsic rather than instrumental. Interestingly though, this group does not feel marginalized.

The context of the research was the introduction of the Single Payment (SP) scheme, a completely new basis for the provision of financial support to farmers within the European Union which ‘decouples’ financial support from the level of production and links it to the area farmed and the way in which land is managed. There were significant differences between the behavioral types in attitudes towards the SP, with the independent / small farmers more likely and the lifestylers least likely to see it as constructive and necessary. There were also differences in how they intended to use their SP, with the lifestylers most likely and the enthusiast / hobbyist least likely to change their farming systems in response to the introduction of the SP (Rehman, Garforth et al. 2008).

As for the influence of others on what the farmers would do in response to the SP, ten ‘referents’ were identified through focus group discussions. These are people and institutions whose views on this matter farmers said they would listen to. In the questionnaire, farmers were asked how strongly they felt these ten would approve or disapprove their changing their farming system following the change of support to the SP, and how strong their motivation was to conform to each of the ten’s views. The product of these two measures is the ‘referent subjective norm’ and indicates the perceived strength of influence of the referent on the respondent. Five of the ten referents showed no significant difference between the farmer types; of these ‘the family’ registered the highest influence for all farmer types. Farmers clubs have a higher degree of influence on the independent / small farmers than on the others, and accountants have a lower influence on the hobbyist than on others. The independent / small farmers also seem to be more influenced by the farming press and literature than other farmers, an observation which seems to underline their independence.

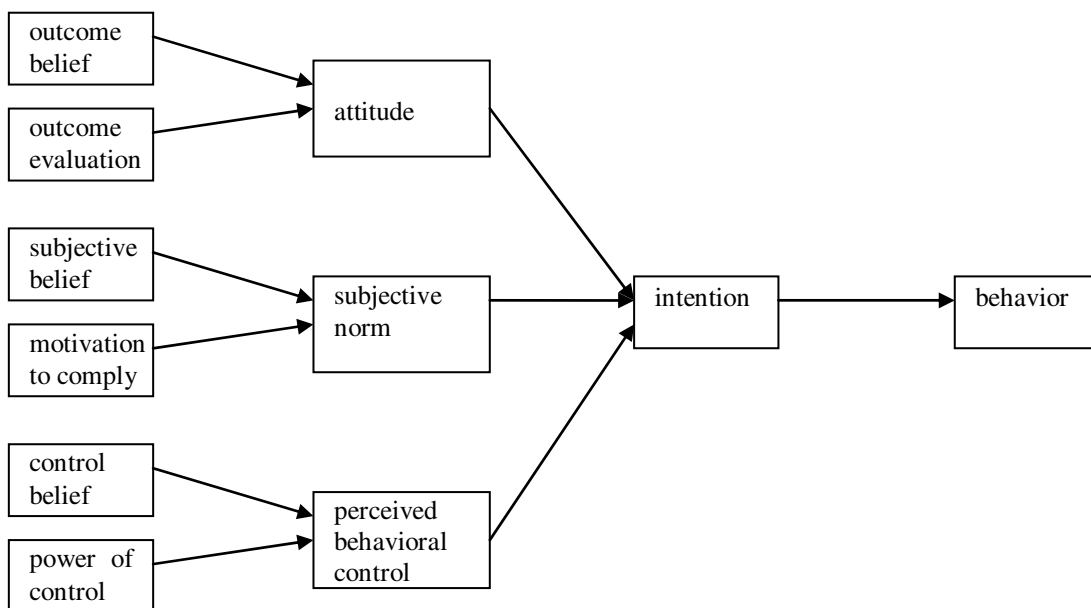
Overall conclusions from this particular study were (among others) that economic drivers are not necessarily paramount for all farmers but environmental, family, lifestyle and stewardship motives are equally, and sometimes even more, important for many farmers; these non-economic drivers are long term goals while the economic drivers in current policy models reflect shorter term objectives and more research is needed on how to integrate these into a common policy modeling framework; and identifying different behavioral types leads to more accurate predictions about responses to specific policy changes.

### Irrational Rationality?

It is sometimes suggested that farmers who do not follow advice that will bring them increased profits, or greater efficiency, are behaving ‘irrationally’. There is a strong tradition in social psychology that would dispute this label, suggesting instead that voluntary human behavior is normally rational in the sense that it is based on a rational assessment of the likely outcomes of behaving in a particular way and the importance of those outcomes to the individual. In other words, in order to understand behavior, we need to unravel the reasoning that lies behind it. Applying this idea to farmers and their behavioral choices gives us a more nuanced understanding of why they do things which others (scientists and policy makers, for example) might see as irrational. One theoretical model that has been applied to behavior in many aspects of human activity (leisure, health and nutrition, shopping) is the Theory of Reasoned Action (TRA) and its cousin the Theory of Planned Behavior (TPB) (Ajzen and Fishbein 1980).

Figure 1 shows the basic ideas in these models. Intention is the precursor of voluntary behavior. According to TRA, the intention to adopt a particular behavior is a function of attitudes towards the behavior and the subjective norm – the extent to which one is influenced by the views of other people regarding the behavior. Attitudes are a product of the extent to which one expects the behavior to result in specified outcomes and the perceived importance attributed to those outcomes. The subjective norm is a function of the perceived support of important referents toward the performance of the behavior and the motivation to comply with those referents. TRA claims that the intention to undertake a particular behavior is a reliable indicator of future behavior, if the expressed attitude toward this behavior and/or the perceived social pressure to do so correlate closely with the stated intent.

TPB extends the utility of TRA through the addition of another component: perceived behavioral control (PBC). PBC is an assessment of the actor’s perceived ability to perform a particular behavior and his/her capability to do so. The contribution of PBC to intention is assessed by comparing the strength of correlation with intention with that of the other two causal components, attitude and the subjective norm (SN). TPB is generally seen as a more appropriate conceptual framework when studying behaviors which are not fully under ‘volitional control’: i.e. where an individual might want to carry out a particular behavior but feels he or she is constrained from doing so.



**Figure 1 Schematic representation of the Theory of Planned Behavior (based on (Ajzen and Fishbein 1980).**

*Why do farmers not do what scientists expect them to?*

We have used these models in several studies commissioned by a variety of agencies including various departments within Defra, four of which I refer to below. The first study was designed to find out whether farmers’ attitudes were contributing to a perceived reluctance to take up the results of successful applied research promoted within the industry and if so, whether anything

could be done to address those attitudes to increase the uptake of appropriate technology. Three areas of technological innovation were selected for the study: oestrus detection in dairy cows, encouragement of white clover in pastures, and optimizing the use of nitrogen available in slurry and farmyard manure. In all three areas research seemed to show that farmers could increase efficiency and profit by adopting new practices. Qualitative data generated through focus groups and telephone interviews with dairy, sheep and beef farmers were used as the basis for three questionnaires designed to elicit variables within the TRA framework with respect to the three technologies. Each questionnaire was administered through postal survey to a separate random sample of 500 farmers in the South West of England. The response rate was 29 percent.

The correlations between the components in the TRA model showed clearly that farmers' attitudes towards a technology have a strong influence on whether or not they intend to adopt it. They also show that different referents are influential for different technologies. With oestrus detection, for example, the veterinarian is a strong influence, while for white clover, it is experienced farmers, family members and the farming press that are seen as most influential. The idea that a method of oestrus detection is something that is easy for a person without training to use does not commend it to many dairy farmers, who see any suggestion that their own experience and knowledge of their herd can be bettered by a youngster with a clipboard and stopwatch as demeaning (Garforth, McKemey et al. 2006). Generally, farmers seemed to trust their own judgment and were particularly dubious about new technologies that were heavily promoted by government or official agencies. Their attitude towards the agencies has to some extent transferred to the practices they promote.

The findings from this study suggested that carefully planned communication can help to reinforce attitudes which support adoption and counteract those which act as barriers. Attitudes vary between farm and farmer types. Strategies for knowledge transfer should therefore be tailored to the specific technology and audience. The farming press and local colleges are suitable channels for promoting white clover among sheep farmers, while content should highlight that other farmers have been able to adjust timing of silage cuts to maximize the benefit and have developed successful strategies for weed control. For methods of improving heat detection, the vet is regarded as a highly credible source of advice: any promotion, however, should highlight how the technology enhances rather than displaces the farmer's own herd management expertise. With optimizing N from slurry/FYM, promotion will need to convince large-scale beef farmers that inconsistent nutrient quality can be managed through adjusting application rates in response to testing. Local and personal contacts have more influence on farmers' intentions than more distant and impersonal sources. In particular, many farmers are not disposed to follow advice from institutions that they feel do not fully understand their situation: this is the case for MDC regarding heat detection and for Defra regarding white clover (Garforth, Rehman et al. 2004).

A later study, again using the TRA framework, looked at farmers' attitudes and intentions with respect to practices that the levy body for the beef and sheep sector was promoting in their "Better Returns Programme". These included referring to Estimate Breeding Values (EBVs) when buying rams, and becoming more skilled in assessing market readiness. Although EBVs were shown by research to give farmers an additional two pounds sterling profit, most farmers were reluctant to use them as a factor in their decision making. This was partly because of a

general view expressed by most farmers that they were already content with the level of returns they were getting for their finished lambs, but also because of concern that selecting a ram on the basis of EBVs would result in lambs that were more difficult to manage and to finish and that farmers prefer to use their own judgment based on visual appraisal (Garforth and McKemey 2005).

*Farmers' response to policy debates and changes*

A TRA study for Defra's Livestock Strategy Division explored farmers' attitudes towards buying insurance to cover consequential loss in the event of an outbreak of a notifiable disease. This was in the context of ongoing policy debate on how the costs of future outbreaks of disease should be met (Garforth, Rehman et al. 2005). An interesting finding here was that insurance was way down towards the bottom of the list of things farmers thought were good ways of reducing financial risk; preference was for herd management practices that the farmer could use to prevent infection (Table 2).

**Table 2 Farmers perception of the best way to reduce financial risk of notifiable diseases**

Rank	Effective ways of reducing the future financial risk of N/D	Percent (n=106)
1	Maintain a closed herd	51
2	Prevent contamination by visitors, users of footpath	22
3	Prevent contact of animals between farms	17
4	Quarantine for bought-in livestock	16
5	Prevent use of animal by-products from outside farm	15
6	Minimise contact of animal feed to wildlife	14
7	Strict disinfection measures for essential visitors	12
8	Blood and other diagnostic screening at purchase	6
9	Insurance to cover financial loss from disease	4
10	Keeping money aside 'self-insurance'	3
Total respondents		100

Source: Garforth, Rehman et al. 2005: 81 table 52

Although most farmers have insurance to cover business losses for some eventualities, less than a third in this study had any cover for business losses due to notifiable diseases, and few had any intention to buy such insurance in the near future. Within the TRA / TPB framework, those attitudes that correlate significantly with intention are seen as drivers while those that correlate negatively are barriers. In this study, these barriers and drivers vary between sectors. For dairy farmers, the view that current profitability was too low to allow the additional cost of CLI was a barrier. For pig farmers, the belief that CLI was not worthwhile was a significant barrier while conversely the view that CLI can help farmers recover from the effects of notifiable disease was a driver. The three referents with most influence on the decision to buy CLI are veterinary surgeons, farmer organizations and accountants, though none carry as much weight as the farmer's own knowledge and experience. Dairy farmers seem to be less influenced by social pressure than beef and sheep or pig producers.

The study concluded that any strategy to promote CLI would need to reinforce the concept that CLI will be worthwhile, enabling post-outbreak recovery, while continuing to emphasize the risk

faced from notifiable diseases. It would be important also to address the fear that farmers have of CLI becoming compulsory, acting as an additional tax on their already economically stressed livestock enterprises.

The fourth study is the one in which the behavioral typology described earlier was developed. Farmers' intentions with respect to the introduction of the Single Payment, and the factors affecting those intentions, were analyzed within a TPB framework. For the general behavior of changing farming system or practices in the next five years as a result of SP, the overall attitude, subjective norm and perceived behavioral control for each farmer type correlate significantly with stated intention. Intention vs. Attitude is the dominant correlation in each case, followed by the Intention vs. Perceived Behavioral Control (PBC) correlation in all cases but the 'enthusiast/hobbyist' (Table 3). The 'hobbyists' appear to be more likely to take into account the opinions of their 'respected others' than the difficulty posed by the change and their ability to achieve it - the PBC.

All farmer types show a stronger correlation between intention and attitude than between intention and subjective norm. This implies that the respondents' decisions regarding changing farming system and practices in response to the introduction of the SP will be governed more by their own experience and values than by perceived social pressure. For beef and sheep, general cropping and 'other' farm types, perceived behavioral control correlates with intent more strongly than attitude. The mean PBC for these farm types is negative, suggesting that their perception that it would be difficult for them to make a change will be more influential than their attitudes or social pressure.

**Table 31 Correlations of TPB variables with intent to change farming system in response to SP**

Main TPB variables	All	Family	Business	Hobbyist	Lifestyler	Independent
n	674	200	172	112	146	44
	$r_s$	$r_s$	$r_s$	$r_s$	$r_s$	$r_s$
Attitude	.483(**)	.412(**)	.587(**)	.487(**)	.438(**)	.537(**)
Subjective norm	.325(**)	.318(**)	.276(**)	.371(**)	.327(**)	.377 (*)
Perceived Behavioural Control	.403(**)	.361(**)	.552(**)	.217 (*)	.381(**)	.461(**)

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

The study overall revealed distinct patterns of response by the five farmer behavioral types in respect of the SP. The five categories represent, therefore, a potentially useful typology for policy analysis, complementing other typologies commonly used to differentiate the farming population based on scale, enterprise and economic status.

## Conclusions

It is now widely accepted that farmers' motivations for continuing what they are doing, and for changing what they are doing, are not simply economic or financial. Their decisions cannot be predicted on the basis of simplistic notions of "economic rationality". While costs and returns are clearly important in weighing up choices (and farm management economics has given us several useful tools and methodologies for analyzing these), farmers operate within a social context

which both constrains and facilitates their behavioral choices. They have complex sets of core values, just like anyone else, which will make some choices more attractive than others which may be more rewarding financially. It is therefore appropriate to look to the wider family of social sciences, including sociology, psychology and social psychology, to help us understand more fully the factors that inform and influence farm level decisions. And this improved understanding should make us better at designing policy and advisory interventions that will benefit farmers and society.

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