

# Behavioural economics

A review of the literature and proposals for further research in the context of workplace health and safety

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A review of the literature and proposals for further research in the context of workplace health and safety

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Historically, economists can be accused of having ignored behavioural issues. However, recent times have seen an upsurge in interest generated by the failure of conventional economics to adequately address recent economic reality. As a consequence, research was commissioned by the Economics Analysis Unit of the Health and Safety Executive, with three main aims: to provide a detailed review of the current and emerging literature on the use of behavioural economics; to provide initial proposals relating to the sorts of policies that could be both feasible and effective in changing favourably the health and safety behaviour of both employers and employees; and to offer recommendations on priorities for further research.

Several theories have been identified that could be relevant in health and safety policy making, including: that there is a skewed perception of risk; there is a cost of processing information; that compliance with health and safety might be affected by the level of stakeholder involvement and/or employees' perceptions of fairness; that the act of publicly committing to standards affects health and safety performance; and that the monetising of non-compliance through fines can affect health and safety outcomes. The decision as to whether and how any of these theories might be further researched by HSE is subject to a wider consultation across HSE.

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Rabin highlights three themes which are seen as being of particular relevance:

- 1) the dislike of losses outweighs the liking of gains
- 2) that departure from pure self interest can arise due to issues of fairness, reciprocal altruism (mutual benefit) and even revenge
- 3) that under uncertainty, biases in judgement (including those created by too much or too little information) can lead to errors

Regardless of leanings in theoretical underpinnings, notions of behaviourally modified economic choices have been largely supported by empirical findings generated by the application of the techniques developed by experimental economists. Such procedures typically involve the control of an environment (as in a laboratory experiment) and the subsequent observation of the behaviour of the agents involved. The weight of evidence yielded by the application of such techniques (often taking the form of classroom experiments) has yielded an encouraging degree of support for the fundamental notion that aberrations of behaviour away from that predicted by pure economic theory do routinely occur in the real-world (Coughlin 2008).

Behavioural economic science has gained a popular audience, particularly in the last year, with some notable economists and behavioural scientists publishing books revealing the mysteries of seemingly ‘irrational’ economic behaviour in a manner accessible to the interested ‘person in the street’. While their intent is dissemination amongst the general populous the studies and the scientific thinking on which they are based – as well as the work of the scholars themselves – deserves to be taken seriously. Indeed, the everyday behaviours to which the theories have been applied have in some instances provided an excellent means to collate otherwise disparate knowledge and apply it coherently. Indeed, books such as *Nudge* by US academics Thaler and Sunstein (2008) and *Happiness: Lessons from a New Science* by British economist Richard Layard (2005) appear to have been especially influential in policy making circles.



- **THEME 1:** Bounded rationality and/or complex ('exotic') preferences in processing information and/or understanding one's own utility in cases of risk and reward uncertainty, especially in the inter-temporal context.
- **THEME 2:** Bounded rationality and/or complex ('exotic') preferences where motivation and choice are influenced by prior biases and cultural factors (including prejudices, heuristics and instincts, group thinking and social conformity).
- **THEME 3:** Strategic behaviour (including learning) and game theoretic applications in everyday decision making.
- **THEME 4:** Bounded rationality and/or complex ('exotic') preferences concerning human interactive choices. In some cases this over-laps with the theme of strategic behaviour highlighted above, but in others research under this theme analyses co-operative behaviour and/or economic behaviour based on inter-personal relationships and cultures, such as herd behaviour, group-think, inequity aversions and reciprocity.

A number of issues raised under this thematic taxonomy are worthy of further discussion.

#### *Computational issues and bounded rationality*

There are a number of ways in which computational issues and constraints arise during decision making. As already noted, some have argued that humans are not always good at making the sort of computations implied by models of 'rational-choice', especially in real-world situations characterised by a high degree of uncertainty coupled with either a shortage or a plethora of information. Further, as Rabin (1998) has argued, humans often display 'loss-aversion' in the sense that dislike of losses outweighs the like of gains, giving rise to what might appear to be non-objective evaluations of losses relative to gains. Additionally, the psychological evidence relating to framing, seems to imply that individuals can be strongly influenced by the way(s) in which choices and uncertainties are presented to them, with some evidence seeming to suggest that individuals may place undue weight upon recent and/or high profile events regardless of actual probabilities.



























































