Butterworth, L. & McDowall, A. (2012). Barriers and influences to pro-environmental behaviour in the workplace. Assessment & Development Matters, 4(2), 6-9

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Participants:

Employees at a medium-sized public sector organisation in the UK.

Digested key message:

We carried out science-practitioner research case study to encourage pro-environmental behaviour in the workplace, using multiple methods based on psychological theory to implement and evaluate interventions such as? [one example here]. The results suggest that providing clearer information, making behaviour easier and using feedback and social norms can have a beneficial effect on recycling and energy saving in the workplace.

Introduction:

Pro-environmental behaviour is a hot topic in today's society. Technological and structural changes alone are not enough to prevent the negative impacts of climate change and global warming, hence changes in individual behaviour are also needed (Steg & Vlek, 2009). Research in this area is growing, however, the majority focuses on the domestic sector despite the fact that the non-domestic sector has a far higher environmental impact (Davis & Challenger, 2009). Furthermore, findings from the domestic sector may not apply to workplace environments.

The aim of this research was to investigate whether psychological theory and evidence can be used to effectively encourage pro-environmental behaviour in the workplace. One such theoretical framework is the Theory of Planned Behaviour (TPB) (Ajzen, 1991). According to this model, behaviour is influenced by attitudes, intentions, subjective norms and perceived behavioural control. Perceived behavioural control is influenced by perception of barriers to behaviour, and a review by Clayton and Myers (2009) identified a number of different barriers which influence pro-environmental behaviour generally. This study focussed on those which are more relevant to a workplace setting: lack of information, feedback, social norms, prompts, and ease (Plank, 2011).

Lack of information has been identified as an important barrier to pro-environmental behaviour, as without knowledge or an understanding of how best to behave; it is not possible to carry out pro-environmental behaviour (e.g. Vining & Ebreo, 1990).

Various studies in the domestic sector have shown that feedback can help to increase pro-environmental behaviour (e.g. Abrahamse, Steg, Vlek & Rothengatter, 2005), particularly when combined with commitment (DeLeon & Fuqua, 1995). This aligns with the TPB which suggests intention to be a key factor.

Comparative feedback which is? has also been used successfully in organisational settings (e.g. Siero, Bakker, Dekker, & Van den Burg, 1996), however it can have a 'boomerang effect' (Schultz, Nolan, Cialdini, Goldstein & Griskevicius, 2007) and lead to decreases in pro-environmental behaviour. The use of comparative feedback invokes the use of social norms, a further factor which has been used

to encourage pro-environmental behaviour (e.g. Goldstein, Griskevicius & Cialdini, 2007) and which is highlighted as important within the TPB.

Prompts have also been shown to have an impact on pro-environmental behaviour. Figures show that individuals are showing an increased concern for the environment and intentions to behave pro-environmentally (DEFRA, 2009); however, actual behaviour does not match this increase. One explanation for this could be that individuals are forgetting to act pro-environmentally when given the opportunity. Prompts can be used to help remind individuals to carry out a pro-environmental behaviour (Austin, Hatfield, Grindle & Bailey, 1993).

A further factor which has been shown to influence pro-environmental behaviour is the ease of that behaviour, which links with perceived behavioural control within the TPB. A number of studies have found that interventions which make pro-environmental behaviour easier are effective (e.g. Fujii, 2006).

Thus, the research suggests that the provision of information, use of feedback, prompts, social norms and ease of behaviour can all influence pro-environmental behaviour. However, as noted by Stern (1992), the most effective interventions have used a combination of techniques rather than relying on one.

Research objectives:

This research aimed to explore the use of the TPB, alongside the principles of feedback and providing information, in an organisational context, and identify whether these are effective in increasing recycling and energy saving behaviours in an office environment.

Methodology:

This study took a multi-method approach, in order to gain as much information as possible. Focus groups were initially carried out in order to identify current barriers to pro-environmental behaviour and to gather ideas from employees on how to encourage such behaviour. As a result of these discussions, three interventions were developed and trialled: new signs for the recycling bins, removal of individual desk bins, and guidance on energy saving through the switching off of computers and monitors delivered to staff via an email. In the latter intervention, employees were assigned to three conditions; social norms, feedback and a control group. The three interventions were evaluated through pre and post observations, which provided an objective measure of behaviour, and an employee questionnaire.

Analysis:

Content analysis was used to analyse the focus group and questionnaire data. A Wilcoxon test was used to identify differences in the observations of the recycling bins and a chi square test was used to compare frequencies in the energy-saving observations.

Discussion:

The observations showed that the average weight of the recycling bins decreased as a result of the new recycling signs and the removal of individual desk bins (Z=.68, p=.5; Z=.02, p=.98). This could

suggest that providing clearer information to employees through the new signs was unsuccessful at encouraging recycling, as was making it easier for employees to recycle by removing individual desk bins. One explanation for the latter finding could be reactance, as employees may have felt that their control was being reduced by the organisation. However, self-report measures showed that there had been some positive effect of the two recycling interventions on recycling behaviour according to employees. Furthermore, it should be noted that 'reduce' and 'reuse' are also important pro-environmental behaviours, and it may be that employees exhibited an increase in these behaviours.

Observations also showed that switching-off behaviour increased as a result of the guidance emails in both the social norms and feedback conditions, although this difference was not significant (Social norms: χ^2 (1) = 1.9, p=.17, Feedback: χ^2 (1) = 2.6, p=.1, Control: χ^2 (1) = .18, p=1). Self-report measures showed that although most employees did not attribute any change in behaviour to the email, a small proportion in each condition did, particularly those in the social norms condition. This suggests that the use of social norms and feedback can have a positive impact on pro-environmental behaviour in the workplace.

This study shows that pro-environmental behaviour is complex and has many likely influences, but that prompting relevant behaviours, highlighting social norms and providing open feedback on relevant initiatives is a valuable starting point .

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Conflict of interest:

None.