

Climate of Change – Or Confusion?

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Introduction

There is widespread, although not universal, agreement that sustainability and climate change constitute major challenges with *real* effects (Peattie & Peattie, 2009). Human activity has disrupted ecological systems; continued pursuit of economic growth based on exploiting finite resources is unsustainable and ‘*avoiding dangerous climate change will require lifestyle changes*’ (Gowdy, 2008: 64), yet there is a lack of clarity and clear communication of what action should be taken and by whom. Policy makers assume, without evidence, ‘spillover effects’, i.e., small behaviour changes will lead to larger change and catalysts for other changes, but doing one pro-environmental behaviour may be seen as compensating for other environmentally detrimental behaviours (Corner & Randall, 2011). These authors note the expectation that social marketing interventions will be employed to address climate change challenges. We discuss the factors that should be taken into account in designing effective sustainability and climate change adaptation interventions.

Attitude-Behaviour Gap and the Deficit Model of Information Provision

Lack of knowledge (i.e. ‘information deficit’) is cited as causing misconceptions and apathy (Owens & Driffil, 2008) and impeding attitude and behavioural change (Costello et al., 2009); but a gap between reported attitudes towards environmental issues and actual behaviours is well documented (Lorenzoni et al., 2007). Attitude change alone is unlikely to be effective in achieving sustained behaviour change primarily because a focus on voluntary change ignores social, environmental, structural and institutional barriers to such change. Behaviour change, or lack of it, may be driven by factors other than attitudes; financial constraints can override preferences. A further barrier is a perception that changing one’s own behaviour will not make any difference to the impact of climate change (Semenza et al., 2008).

The failure of information provision-based strategies to recognise the complex interaction of values, experience and other factors in achieving (or not achieving) successful and sustained behaviour change is recognised, together with the inadequacies of many current theories in charting the interaction of these factors across different population groups (Lorenzoni et al., 2007). Critics claim climate change science communication has resulted in ‘islands of knowledge in a sea of ignorance’ (Meinke et al., 2006: 101); there is a need for salience, legitimacy and credibility in future communication. Other factors that make comprehension difficult for non-experts include: (a) the invisibility of climate change causes; (b) the lack of immediacy of effects; (c) disbelief about the impact of collective action; and, (d) the efficacy of any individual action (Moser, 2010). Declining trust in government sources presents a further challenge as it leads to both reactance and risk denial (Gifford, 2011). The public learns a large amount about science through consuming mass media news (Boykoff & Roberts, 2007). There is an assumption that the media will provide accurate and factual information, yet there is evidence of the presence of sensationalism, amplification of risks and speculation on worst-case scenarios in reporting (Dudo et al., 2007). Giving equal time to climate change warnings and dissenting views in the interests of journalistic fairness is commonplace but reinforces perceptions of uncertainty and generates confusion (Moser & Dilling, 2004).

Message Framing

No one single framing approach is applicable across all intervention types. In low-involvement conditions positive messages appear more effective, whereas the reverse is true for high-involvement conditions (Donovan & Jalleh, 1999). The uncertainty of climate change impact (Adger et al., 2009) means that the outcomes of individual actions are also uncertain; people are reluctant to act in response to information that contains ambiguity or

uncertainty (Morton et al., 2011). While positive framing fosters greater self-efficacy, in health contexts it can have a boomerang effect if the message conflicts with pre-existing knowledge, attitudes and beliefs (Wolburg, 2006). We are unable to locate any studies that have tested for these effects within climate change /environmental contexts.

Those who respond positively to fear-based interventions are better educated and more affluent, and are better able to respond to persuasive messages (de Hoog et al., 2005). Fear appeal effectiveness may erode over time or lead to heightened anxiety and many *unintended* effects of interventions are attributable to such appeals (Guttman & Salmon, 2004). For climate change and environmental protection messages, fear is effective only when they convey *personal* relevance and a sense of *personal* vulnerability. Effectiveness is also enhanced when the personal salience of messages is coupled with ways of building or reinforcing self efficacy and presenting low cost solutions and support (Spence et al., 2010).

People may react to a perceived threat, rather than the threat's consequences, and attempt to regain control of their threatened freedom (Ringold, 2002). Threatened behaviour may become more attractive, i.e., a 'forbidden fruit' effect (Sussman et al., 2010). Unrealistic optimism, bias and denial of personal risk, whereby individuals estimate their own risk of negative outcomes as lower than the wider population, present further challenges (Kleinjan et al., 2009). These are resistant to change, and information provision alone has little impact (Morton & Duck, 2001). Maladaptive responses may include denial or counter-productive behaviours such as buying an SUV in anticipation of environmental challenges, even though SUVs are less fuel efficient than other vehicles (Moser & Dilling, 2004).

Community and Individual Capacity, Time Dimensions and Functional Literacy

Communities may vary widely in terms of their ability to adapt to change, with classifications ranging from 'powerless spectators' lacking capacity, skills and resources, through 'coping actors' who have the capacity but may not be coping effectively, to 'adaptive manager' communities with high levels of both adaptive and governance capacity. Many interventions are predicated on the assumption that communities understand their own needs and can develop, or co-create appropriate solutions to the challenges they face (Fabricus et al., 2007). An individual's ability to visualise the future is only 15 – 20 years for most people with 50 years the longest conceptualization limit; longer scenarios are seen as hypothetical (O'Neill & Hulme, 2009) even if the material is understood. The Adult Literacy and Life Skills Survey (ABS, 2006) for which Level 3 is regarded as the '*minimum required for individuals to meet the complex demands of everyday life and work in the emerging knowledge-based economy*' estimates 47% of the population fall into the lowest two quintiles for document literacy and 70% for problem solving. Official reports (and news items) are written at a level that is likely to be comprehended only by those with postgraduate qualifications (Eagle & Case, 2011)

Conclusion

Sustainability and climate change adaptation interventions would be improved by designs which: (1) understand and make accommodations for the attitude-behaviour gap; (2) build in a nuanced appreciation of message framing effects; and, (3) are sensitive to community and individual limitations (temporal horizons, literacy levels, etc.). An integrated research programme, including implications for education is needed to guide future social policy.

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