Journal of Environmental Psychology 40 (2014) 296–305

Contents lists available at ScienceDirect

Journal of Environmental Psychology

journal homepage: www.elsevier.com/locate/jep

The common in-group identity model enhances communication about recycled water

Tracy Schultz [a, *], Kelly Fielding [b]

[a] School of Psychology, The University of Queensland, St Lucia, Queensland, 4072, Australia
[b] Institute for Social Science Research, The University of Queensland, Australia

ARTICLE INFO

Article history:
Available online 12 August 2014

Keywords:
Social identity
Common in-group identity model
Superordinate identity
Recycled water
Recycled water communication
Public perceptions

ABSTRACT

Despite the potential of recycled water to provide a safe alternative water source, recycled drinking water schemes have met with community resistance that has undermined their implementation. The aim of the current study was to identify effective means of communicating information about recycled drinking water by drawing on the common in-group identity model. In an online, experimental study, we explored whether awareness of a common/shared superordinate identity could enhance the impact of information on public perceptions of recycled drinking water. The results showed that the communication of information increased participants' acceptance, perceived knowledge and positive emotions toward recycled drinking water and lowered their risk perceptions. Moreover, the results provide the first experimental evidence to show that the effect of information on recycled water was enhanced when the information was attributed to a scientist that shared a superordinate identity with participants, albeit only for those that identify strongly with the superordinate identity.

1. Introduction

Ensuring continued access to finite water resources during a time of increased consumption and climate change is a challenge being faced by governments across the globe (Callaghan, Moloney, & Blair, 2012; Dolnicar & Saunders, 2005; Po, Kaercher, & Nancarrow, 2004; Price et al., 2010). It has been estimated that by 2025 two out of three people will be living in water stressed areas (Brown, 2000), highlighting the need for governments to source alternative sources of water to ensure ongoing water security (Hurlimann & Dolnicar, 2010a; Simpson & Stratton, 2011). One such alternative is recycled water. Recycled water is highly treated waste water from a sewerage treatment plant (National Water Commission, 2007). Waste water, which can be reclaimed from households, industry or storm water, is subjected to a range of treatment technologies, including microfiltration, reverse osmosis and advanced oxidisation. Experts in the water industry espouse recycled water as a safe, cost effective, climate resistant, energy efficient and sustainable solution to combat future water shortages (Callaghan et al., 2012; Dolnicar & Schäfer, 2009; Mellon & Tsagarakis, 2006; Simpson & Stratton, 2011).

Despite the capacity for water to be effectively recycled to a standard fit for drinking, attempts to implement schemes that use recycled water for drinking purposes have met with strong public opposition (National Water Commission, 2011). Focus group research has found that the most commonly reported concerns regarding the use of recycled water were regarding safety and public health (Po et al., 2004). Similarly, Marks, Martin, and Zadoroznyj (2008) reported on a survey of key stakeholders involved in water management and found that they consider public perceptions of risk to be one of the largest barriers to the uptake of recycled water as a source of alternative water. The US-based WateReuse Association states that "without public acceptance, it would be difficult for any local government or special district to site, finance, construct and operate a water-recycling project" (WateReuse Association, in Bridgeman, 2004, p. 150). Examples of unsuccessful recycled drinking water schemes, attributed to strong resistance from local communities, include Toowoomba, Australia (Callaghan et al., 2012; Hurlimann & Dolnicar, 2010b) as well as San Diego and Tampa, USA (Miller & Buys, 2008). The sentiment that psychological, rather than technological or economic barriers, are impeding the use of recycled drinking water is widely supported in the available literature (Dolnicar & Schäfer, 2009; Green, Fielding, Leviston, & Price, 2010; Hurlimann, 2008; Hurlimann & Dolnicar, 2010a; Marks et al., 2008; Nancarrow, Leviston, Po, Porter, & Tucker, 2008; Po et al., 2005).

* Corresponding author. Tel.: +61 407575464.
E-mail address: t.schultz1@uq.edu.au (T. Schultz).

http://dx.doi.org/10.1016/j.jenvp.2014.07.006
0272-4944/

Accordingly, much of research conducted in the last 10 years has focused on identifying and describing the psychological determinants of public perceptions of recycled drinking water (Dolnicar, Hurlimann, & Grun, 2011; Dolnicar & Schäfer, 2009; Hurlimann, 2007; Hurlimann, 2008; Hurlimann, Hemphill, McKay, & Geursen, 2008; Nancarrow, Leviston, & Tucker, 2009; Po et al., 2004; Price et al., 2010). Explanatory factors that have been identified include: trust, perceived norms, fairness, pricing, satisfaction and prior experience. However, across all the research findings, acceptance, risk perceptions and emotion have been consistently identified as key determinants of public perceptions of recycled water (Dolnicar et al., 2011; Hurlimann, 2007). More recently however, research has highlighted the need to move away from describing the factors that predict public perceptions to exploring processes which can improve perceptions (National Water Commission, 2011; Simpson & Stratton, 2011).

Attempts by an authority group to improve public perceptions of recycled drinking water will invariably involve the communication of information to the target community (Green et al., 2010; Russell & Hampton, 2006). To date, the effect of providing information about recycled water has been empirically tested in three studies (see Dolnicar, Hurlimann, & Nghiem, 2010; Roseth, 2008; Simpson & Stratton, 2011), with only the study conducted by Dolincar et al. appearing in a peer-reviewed, published outlet. Whilst all three studies confirmed that information was able to increase acceptance of recycled drinking water the results were not dramatic (Dolnicar et al., 2010; Roseth, 2008; Simpson & Stratton, 2011) and suggest a need to consider ways in which information about recycled drinking water might be optimised or better framed to enhance public response.

For the vast majority of water consumers, recycling water to a standard fit for drinking represents a new, poorly understood technological advance and is associated with a level of risk to public health (Hurlimann, 2007; Marks et al., 2008; Po et al., 2004). Past research suggests that the communication of information about risky technologies and/or scientific concepts is influenced by social identity considerations (Blok, Jensen, & Kaltoft, 2008; Wynne, 1992). For example, Blok et al. (2008) highlight the role of social identity in understanding lay-expert differences in risk perceptions of pesticide use. Further, theories of persuasion and attitude change highlight the importance of the source of the information in attempts to change attitudes (Crano & Prislin, 2006). For example, the elaboration likelihood model (Petty & Cacioppo, 1986) and the heuristic/systematic model (Chen & Chaiken, 1999) argue that the source and message both play important and distinct roles in persuasive interactions. In the current study we draw on social identity principles to test the effectiveness of a framing technique which manipulates the identity of the information source, on improving public perceptions of recycled drinking water.

1.1. Common in-group identity model and recycled water communication

Communication about recycled water occurs between groups, most often between an authority group such as scientists or a government body and the community (Russell & Hampton, 2006). According to social identity theory, responses to messages transferred between groups can be greatly influenced by whether the messages are perceived to come from in-group or out-group members (Tajfel & Turner, 1979; 2004). The process of categorising group members as members of their own group (an in-group) or as members of another group (an out-group) is referred to as self-categorisation (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). Self-categorisation theory posits that similarities between the self and other in-group members are accentuated through positive comparisons, whereas negative comparisons are used to discriminate between in-group members and out-group members (Turner et al., 1987). This process creates an 'us' and 'them' situation, whereby people respond to messages from out-group members with cognitive and motivational biases (Tajfel & Turner, 1979).

Consistent with this theory, past research has shown that messages from in-group members are more influential and persuasive than those from out-group members (Abrams, Wetherell, Cochrane, Hogg, & Turner, 1990; Brown, 2000; Mullen, Brown, & Smith, 1992) and messages that highlight faults of a group are much more likely to be accepted when they come from in-group than out-group members (Hornsey & Imani, 2004). Messages from in-group members are likely to be more influential because in-group sources are trusted more and are perceived to be more credible (Hogg, 2003; Ross, Fielding, & Louis, 2014). These findings have important implications for authority groups such as governments and scientists (who may be categorized as out-groups) tasked with communicating information about recycled drinking water in an attempt to persuade a community (an in-group) to be more favourable toward recycled water. Importantly however, whilst it could be problematic for an authority group to be categorised as an out-group (Tajfel & Turner, 1979, 2004), according to the common in-group identity model the process of self-categorisation is malleable (Gaertner & Dovidio, 2012).

The common in-group identity model asserts that certain factors can trigger the self-categorisation process at a more inclusive level, whereby out-group members become incorporated into an individual's representation of an in-group. The "us" vs "them" becomes a more inclusive "we", creating a shared or common fate between two groups where none existed previously and resulting in less inter-group bias, increased trust and increased willingness to take the other person's perspective (Gaertner & Dovidio, 2012). One factor demonstrated to trigger re-categorisation from two groups to one group is to increase the salience or awareness of a superordinate identity (Gaertner & Dovidio, 2012). A superordinate identity is any higher-level, social identity that is shared between two or more groups (Kane, 2005). For example, if "psychology student" and "law student" represent sub-groups, "university student" would represent a superordinate identity. It is important to recognise that whilst people must be made explicitly aware of the superordinate identity for re-categorisation to occur, the motivation to change (i.e., reducing any inter-group biases) is thought to be implicit or subconscious (Gaertner & Dovidio, 2000).

There is considerable experimental research evidence supporting this technique (Bizman & Yinon, 2001; Kane, 2005; Stone & Crisp, 2007). For example, research conducted by Kane (2005) manipulated awareness of a superordinate identity between groups of American university students ($N = 144$) who worked on a group task (i.e., constructing an origami product) and found that knowledge of new procedures was significantly more likely to be successfully transferred between group members when they were aware of a shared superordinate identity compared to when they were not (Kane, 2005). Moreover, Stone and Crisp (2007) conducted a series of experiments with samples of British undergraduate students and consistently found that increasing the salience of a superordinate identity (i.e., European identity) shared by the British students and a French out-group reduced inter-group biases (i.e., preference to work with ingroup members). Stone and Crisp's (2007) research also demonstrated that people must be highly committed to the superordinate identity for the reduced bias effect to occur and this moderating effect of strength of identification is acknowledged by other researchers, including Hogg (2003) and Huo, Smith, Tyler, and Lind (1996).