DRINKING WATER CONSERVATION IN THE NETHERLANDS: HOW CAN WE CHANGE OUR BEHAVIOUR?

The conscious and economical consumption of drinking water cannot be taken for granted. It is essential, however, because of the need to use vulnerable nature and available raw materials sustainably, and to reduce greenhouse gas emissions. Furthermore, water is scarce; the dry Dutch summer of 2018 was a wake-up call in this respect for drinking water companies. How logical it might seem to conserve drinking water, it's easier said than done.

Despite the rise in sales of water-saving devices, domestic water consumption has decreased only slightly in recent decades (Van Thiel, 2017). It is therefore important to focus efforts on enhancing water conservation behaviour. Currently, water companies do this mainly by issuing drinking water advice during droughts. The question, however, is to what extent this advice is adhered to. What does it take to get people to actually use less drinking water? In this article, we set out the key insights into stimulating water-saving behaviour, based on an extensive study of the literature.

Knowledge transfer is not enough

The standard idea is that you have to inform people, for example about the negative consequences of a water shortage for the environment (Koop et al., 2019). As long as they have enough of an understanding, they will adopt a more positive attitude towards water-saving behaviour. However, a positive attitude still doesn't mean that individuals personally want to save water. If no one in their social environment is concerned with saving water (negative social norm) and they don't consider themselves as being knowledgeable about how they can save water (low estimation of own effectiveness), there is, in fact, little chance that they actually want to save water.

Where there's a will, there's a way?

In stimulating behavioural change through knowledge transfer, one of the presumptions is that people make more or less well-considered decisions about their behaviour. But that is by no means always the case. For instance, the intention to take shorter showers often does not result in taking shorter showers in practice.

One of the reasons why intentions often fail to result in action is that many of our daily choices are made virtually without thinking. There are two systems in the brain that, to a greater or lesser degree, are active: system 1 is a fast system, based on emotion, impulse or habit. It is also known as our automatic brain, because we have no control over it. System 2 is a slower and more reflective system based on cognition and the consideration of choices (Kahneman, 2012). Thinking in accordance with system 2 requires a lot of brain energy. Due to a lack of time, mental energy or capacity, our brains generally operate based on system 1. Two behavioural influencing tactics that focus on well-considered choices are (I) increasing knowledge and (II) increasing perceived behavioural control (Koop et al., 2019). These tactics – which for example come together in the current recommendations for conserving water - may well influence attitudes towards water conservation, but often fail to result in actual behavioural change.

Taking advantage of automatic decision-making

Most daily choices in relation to water consumption are made almost completely unthinkingly and automatically (system 1). The quick decisions that people make in these circumstances are often based on simple rules of thumb (Kahneman, 2012). In addition to behavioural influencing tactics that respond to well-considered choices (system 2), there are also various tactics that respond to a greater or lesser extent to the virtually completely automatic, impulsive route (system 1). The tactics studied that respond to this route of conserving water are framing, social norms, tailoring, emotional shortcuts, priming and nudging (Koop et al., 2019).

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Framing: how do you present the message?

Framing makes use of subconscious errors in our thinking, for example the tendency to see things we need to tackle in the short-term as important, while paying hardly any attention to more important things in the longer-term. Accordingly, experiments have shown that people are more open to messages about the direct short-term effects of water shortages than about the indirect long-term effects that are more far-reaching (Zhuang et al., 2018).

Social norms: how do other people behave?

Social norms reveal what other people are doing. For example: 'Most people choose a water-saving dishwasher'. This type of information also works as a simple rule of thumb for making a choice that requires no reflection. Where people make quick, almost completely automatic choices, social norms can stimulate water conservation. Up until now, applying social norms appears to be one of the most effective behavioural influencing tactics with respect to conserving water (Koop et al., 2019).

Tailored feedback reveals subconscious patterns

Tailoring relates to getting the message to resonate with the recipient so that the he or she is more likely to feel personally addressed, and to process the message more consciously (via system 2). In the Netherlands and abroad tailoring is used widely to provide feedback on water consumption through the installation of smart water meters. People often believe they are more economical in their use of water than is actually the case. This leads to a feeling of discomfort, and an incentive to save more water (Cialdini et al., 2006). In the literature this mechanism is referred to as cognitive dissonance.

Emotional shortcuts: responding to feelings

People's responses to different messages can be influenced by evoking emotions. For example, an experiment in which small feedback screens were placed in showers, demonstrated that a visualisation of a swimming fish that dies when you use too much water is more of an incentive to save water than a presentation of water consumption with figures or drops (Fang & Sun, 2016).

Priming: activating a mind-set

Exposure to a prime – i.e. an external stimulus, for example words or a smell – influences the response to a subsequent stimulus because a certain *mind-set* or goal has been activated. Priming environmentally-conscious goals thus results in increased appreciation of, and choice in favour of, loose rather than packaged products (Tate et al., 2014). As far as we know, primes have not yet been used for water conservation.

Nudging: a push in the water-saving direction

Nudging means cleverly designing the environment and range of choices to change people's behaviour in a predictable way, without taking away options or restricting freedom of choice (Thaler & Sunstein, 2008). To this end, several of the tactics referred to above can be used. One well-known example is positioning healthy food products at eye level in the supermarket. In the same way, water-saving taps can be displayed prominently in DIY stores to stimulate sales. Indeed, there are many possible applications of this tactic.

The next steps towards more water-saving behaviour

The international literature on domestic water conservation shows that there is a big difference between knowing, wanting and doing, and that a push in the right direction can help. Cleverly combining and repeating different behavioural influencing tactics appears to be the key to success. When drinking water companies issue water-saving tips during dry periods, it is important that they respond to the automatic, impulsive system in the brain. Subtle tactics can make water-saving behaviour the obvious option. To-date, social norms and tailored feedback in particular appear to be effective.

The question is, however, what happens when behavioural influencing tactics are used over a longer period. For example, is placing an hourglass in the shower still effective a few months down the line? One interesting direction of research which KWR is fully committed to, is exploring how these forms of behavioural influence can help people to develop and maintain new water-saving habits.

The use of so-called 'if-then plans' is interesting in this regard. In an if-then plan, a specific situation is associated with a specific behaviour. For example: 'If I am cleaning my teeth, then I will switch the tap off'. The thinking behind this is that the situation (cleaning your teeth) automatically triggers behaviour (turning the tap off) without having to think about it. The use of this approach is already delivering promising results in the area of pro-environmental behaviour (Gollwitzer & Sheeran, 2006).

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SUMMARY

Drinking water companies are increasingly issuing advice on how to save water during dry periods. The question is whether people follow this advice. What does it take to get people to actually consume less drinking water? This article presents eight behavioural influencing tactics from the international literature that have been used in the area of water conservation. Knowledge transfer alone, and increasing perceived behavioural control, do not appear to bring about sufficient change in behaviour. Subtle tactics that respond to the impulsive route are often more effective. For example, comparison with others can subtly stimulate someone to save water. Questions for follow-on research are what the effects of these subtle behavioural influencing tactics are in the long-term, and how water saving behaviour can become a habit.

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