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Cognitive tips for changing mindsets: improving policies to protect health and environment

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It is difficult enough to persuade people to adopt a healthy lifestyle, such as eating well, doing physical exercise or avoiding smoking – *all of which have a direct impact upon their lives*; however, it is an even greater challenge to persuade them to take significant actions for the future benefit of others. One such challenge is related to the protection of our environment.

Unfortunately, people consider environmental protection as a separate domain to health protection, but it is not: the environment can affect human health, and environmental hazards increase the risk of diseases with adverse consequences for the entire world.¹

Various measures are proposed by national and international organisations, agencies and public institutions with the objective of regulating adequate action from citizens regarding the protection of their environment.

Generally, economic actions such as taxes, subventions, fee structures and laws are, in many countries, the most frequently adopted measures.²

Recently, however, psychology (particularly cognitive psychology) and behavioural sciences have been involved in a search for solutions and suggestions for improved policies and directives.³ There is a growing awareness that in different fields of human life,⁴⁻⁵ personal behaviours and attitudes can bring about change.

With regard to green behaviour, current literature highlights how, in many situations, environmental protection may also be influenced by people's behaviours and individual choices. Reflecting this, psychology and behavioural sciences can provide specific insight in examining individual people's actions and behaviours to support the resolution of environmental issues.

Their contribution is often called "soft"⁶ because it is based on techniques and methods that aim to adapt and modify people's attitudes and perceptions, rather than impose a radical modification through taxes, economical actions or other "hard" mandatory policies (directed by legislation and regulatory monitoring). There are a number of soft techniques. In this paper, three techniques are presented which have been applied in the domain of the environment. Their effectiveness in promoting a radical change in the community is still being debated and discussed.⁷

1) *Transform the problem through direct knowledge*: As excellently illustrated by the naturalist Sir David Attenborough, consumers around the world buy a million plastic bottles a minute, and billions of people globally are drinking water contaminated by plastic, daily ref. His reportage on plastic

pollution of the oceans had a strong impact on the behaviour of UK citizens and retailers. This example put pressure on retailers and consumers to restrict their use of plastic, especially single-use plastic. In fact, it went beyond this. It made a valuable contribution to raising awareness of concrete risks for human health: plastic is dangerous for humans, and plastic toxins (and allied substances such as lead, cadmium and mercury) have been found in many fish usually consumed by humans.⁸ Research highlights that experiences and stories that are close to our lives have a bigger impact upon human behaviour. However, the issues of climate change, contamination of the ocean by plastic, and air pollution may be considered as irrelevant or may even be ignored in everyday life when they appear to be very distant from us.

As shown by the *Construal Level Theory (CLT)*,⁹ distance does not help people to make decisions; neither does it support individual growth towards addressing these social problems. “CLT proposes that we do so by forming abstract mental construals of distal objects. Thus, although we cannot experience what is not present, we can make predictions about the future, remember the past, imagine other people’s reactions, and speculate about what might have been.”⁹

Consequently, it is important that we see this problem as being closer to our human experience. Although social media may offer a means of resolving this, social campaigns and public interventions need to be aware of the power of proximity.

In recent years, solutions oriented in this direction have been represented by digital tools and gamification research; some existing gamified environmental apps help to encourage sustainability and conservation behaviours by making environmental protection a more concrete issue where a person plays a role in its preservation using a virtual intermediary.¹⁰⁻¹¹

2) Frame the problem in the right perspective: It is difficult to say what “right” means, but it often means “genuine” and “realistic”.

The framing effect is an example of a cognitive mechanism in which a person reacts to a particular stimulus in diverse ways depending on the way in which it is presented; furthermore, a frame influences how we process information.

Current environmental policies have begun to use the frame effect in order to make environmental issues have a powerful influence upon public opinion. Despite that, a major criticism is that the information provided has often been framed in a too positive or even unrealistic scenario.

For example, UK ministers were recently criticised for their “stubborn failure” to tackle widespread and illegal levels of air pollution, which causes 40,000 early deaths every year. As recently discussed, mass media channels, institutions and governments often focus on hiding disturbing information to avoid the emotion of fear and to encourage a sense of responsibility in citizens. As a result of this kind of denial, “people describe a sense of ‘knowing and not knowing’ about climate change” (p. 400).¹²

Environmental degradation can cause disease (e.g. stroke, chronic pulmonary disease, ischemic heart disease, cancer) as well as the deprivation of essential natural resources such as water, and this, in turn, has serious repercussions for human lives, such as the development of infectious diseases. It can also increase the cost of common goods and infrastructures.¹³⁻¹⁴ When people frame something, they emphasise one aspect of a complex problem over another, calling attention to only a few elements.¹⁵ It is fundamentally important to provide people with the right information and to frame the problem in a realistic way. We must guard against people who are lulled into defending the interests of the few at the expense of the protection of the planet.

When placed into a realistic frame, environmental protection may compete for importance with other predominant problems of human life such as health and economic policy. According to cognitive psychology, when an issue is particularly important for a person, this issue is regarded as being of greater significance and is able to change a person's attitude and perspective. Therefore, if environmental protection is framed as a health and safety problem, individuals will assign greater importance to it.

Framing has observable implications. For example a frame can motivate people to participate in political action, such as voting or signing petitions for environmental protection. It can also increase political consensus on environmental issues.¹⁶ One example of this is air pollution mitigation, which received a high amount of policy support¹⁷; more recent examples are ocean acidification¹⁴ and the mass media coverage of Greta Thunberg.

3) Nudging citizens: Thaler and Sunstein, the authors of nudge theory, define a nudge as “any aspect of the choice architecture that alters people's behaviour in a predictable way without forbidding any options or significantly changing their economic incentives”(p. 6).¹⁸ The concept of nudging has become a broad term by which we identify several techniques to stimulate behavioural changes. In recent years, these techniques have also been applied to environmental protection. A fundamental pillar of nudge theory is the concept of “choice architecture”, which highlights the fact that a person's selection is frequently dependent upon how that choice is presented. Choice architecture is the design of different ways in which choices can be offered to people, and the influence of that offer on people's decision-making. Therefore, by designing the choice context, it is highly probable that the decision will be, to a significant degree, indirectly influenced. With regard to the environment, several “green nudges” – nudges which attempt to encourage environmentally positive behaviour – have been promoted in different countries. An example of a nudging technique is the default option which encourages a given selection by making this the default choice unless one proactively takes different steps. For example, in some countries, citizens have the default option to use energy from renewable sources unless they clearly choose to opt out.¹⁹ Labels are another nudge which may be used to inform people of the consequences

and dangers of their actions or to facilitate corrective actions. For example, eco-labels may be used to communicate environmentally friendly norms such as the correct choice of bins for recycling or encouraging the reuse of towels in hotels.²⁰ Nudges are generally regarded as being more persuasive than conventional information or economic actions, and it is anticipated that by their incorporation into current environmental policies, positive actions can be strengthened and more widely shared among the general public.

However, it is not always like this. Although behavioural scientists try to construct nudges that push people in a more responsible direction, nudges are dependent on context and do not work systematically in every context.

A recent study in California reported attempts to reduce household electricity consumption through the provision of new energy bills not only informing customers about their own consumption but also comparing their consumption with their neighbours. This nudge created only a limited effect in comparison with a more traditional and harder technique: an increase in energy cost.²¹

However, as recently suggested by Cass R. Sunstein, when nudges fail, we can always try to nudge better. When a nudge is ineffective, “the next step is ‘make it easier.’ [...] People’s acts often depend on their social meaning” (p.16); if a nudge affects meaning, it can provoke a change in people’s behaviours.²²

Despite these limitations, the use of nudging is becoming more and more popular; for example, through the Sustainable Development Goals (SDGs) – which are the blueprint to achieve a better and more sustainable future for the environment¹⁹ – the use of nudges has been confirmed as one approach for supporting a change.²³

Overall, these examples represent an emerging debate on how to improve current and traditional policies.

Environmental policymakers should develop new ideas on how to approach citizens effectively and how to enhance the awareness of environmental problems that are neglected in everyday life. Despite the genuine desire of the public to respect the planet and adopt environmentally friendly behaviour, it is not easy to follow these principles.

In conclusion, what are the essential elements that must be taken into consideration in order to enhance environmental protection programs?

- From the perspective of behaviour, as cognitive psychology suggests, we have to recognise that people are not always particularly rational and vigilant, but are often hindered by cognitive bias (i.e. interpretation errors), limited willpower or negligence, as well as being guided by mental assumptions (heuristics) that sway people from making good decisions.²⁴⁻
²⁵ The rationality of people is not absolute but “bounded” – although many environmental economists seem to be reluctant to conceive human rationality in a such way in their research

and policy prescriptions.²⁶ These processes and behaviours often curb good actions and stop the implementation of new ideas.

- From the perspective of the community, as sociology describes, health promotion policies have to be sufficiently inclusive to incorporate an understanding of the social determinants of health, which show that environmental behaviour is significantly influenced by people's socioeconomic and cultural background, and that the promotion of environmental protection policies must go hand in hand with the promotion of health equity policies.²⁷
- From the perspective of health, as epidemiology highlights, we have to consider that the study design is even more important than the techniques adopted: it is crucial to design interventions with impact and effectiveness.²⁸ When seeking to improve environmental protection behaviours, there is an urgent need not only to use different tools but also to propose a different way of thinking (e.g. including psychology's eye) at the individual and community level.
- From the perspective of new social medicine, research has to be able to combine community issues and health issues with the critical and insightful study of the human mind. Environmental issues have brought about possibly permanent alterations to ecological systems with important implications for human health and disease development. And all these changes were caused by human action. The study of human behaviour has to represent an important source of the social medicine portfolio.

A new integrated framework and portfolio of knowledge is needed for investigating environmental protection. The combination of cognitive psychology and behavioural science, together with social and medical sciences, can maximise the chances of success!

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