

## ‘Doing the right thing’: How social science can help foster pro-environmental behaviour change in marine protected areas

Victoria Y. Martin<sup>a,b,1</sup>, Betty Weiler<sup>b,\*</sup>, Arianne Reis<sup>c,d</sup>, Kay Dimmock<sup>a</sup>, Pascal Scherrer<sup>a</sup>

<sup>a</sup> School of Business and Tourism, Southern Cross University, PO Box 157, Lismore, NSW 2480, Australia

<sup>b</sup> School of Business and Tourism, Southern Cross University, Locked Mail Bag 4, Coolangatta, Gold Coast, QLD 4225, Australia

<sup>c</sup> School of Science and Health, University of Western Sydney, Locked Bag 1797, Penrith, NSW 2751, Australia

<sup>d</sup> School of Business and Tourism, Southern Cross University, Hogbin Drive, Coffs Harbour, NSW 2450, Australia

### ARTICLE INFO

#### Keywords:

Behaviour change theory  
Social psychology  
Marine protected area  
Marine park user  
Recreational use

### ABSTRACT

Managers of marine protected areas (MPAs) are constantly challenged to encourage positive user behaviour to minimise impacts on marine ecosystems while allowing recreational use. Yet, some marine users continue to act in ways that diminish conservation values of the area. Drawing on social psychological theories, this paper presents a case for informed behaviour change strategies to reduce problem behaviours in MPAs and contribute to conservation efforts. Social psychological drivers of behaviour are explained and applied to an MPA context to demonstrate how they can inform strategies for predicting and changing behaviour using persuasive communication. As behavioural and persuasive communication theories are seldom invoked and almost never rigorously applied to MPAs, the review offers new theoretical and practical insights into how they can assist MPA management to target and shift specific behaviours that ultimately support marine park values.

### 1. Introduction

Although oceans cover 70% of the Earth's surface and drive fundamental functions such as climate, weather, temperature regulation, oxygen production and carbon dioxide absorption, the focus on the protection of marine areas is recent compared to terrestrial efforts [1]. Accelerated growth in the creation of marine protected areas (MPAs) globally over the past decade comes at a time of ever increasing population growth and resource use, and unprecedented urbanisation and development, particularly along coastal areas [1,2]. MPAs are recognised globally as a management tool to support marine ecosystem protection and conservation [3,4], and are socially constructed with rules that collectively govern human uses of the marine space within a specified area [4].

MPAs tend to have a dual mandate of conservation while facilitating a range of uses as reflected in legislation and in social and political expectations, with recreational use and enjoyment being the focus of the present paper. The conservation–recreational use nexus poses constant challenges to managers of MPAs, challenges that are not uniform and that can vary significantly between sites and even shift over time [5]. These challenges are exacerbated when users of MPAs ‘do the wrong thing’ or break the rules governing allowable use that are in

place to achieve the conservation goals of the area. Currently, managing non-compliance incurs considerable costs [6], and in some MPAs non-compliant behaviour is occurring to such an extent that it is detrimental to the conservation values of MPAs [7]. For example, poaching by recreational fishers (a common problem in MPAs across the globe) was recently shown to be taking place in the Great Barrier Reef Marine Park at a higher rate than managers previously believed [8]. It is therefore important to understand the drivers of these problematic behaviours in the management of all recreational users to facilitate positive, safe and inspiring experiences in natural and cultural areas without diminishing the very characteristics that attracted users in the first place [9].

Understanding, measuring and mitigating human impacts on the marine environment has been the focus of considerable research across the globe [9,10]. While this body of research has not necessarily concentrated solely on MPAs [11], many of the environmental impacts from problem marine user behaviours do arise in MPAs and include: (i) negative impacts on marine species' populations and health caused by illegal fishing [12,13], intertidal/nearshore species harvesting [14,15], disturbance of marine life [16–19], and disturbance to shorebirds by dog walking [20] and/or human foot traffic [21]; (ii) environmental pollution as a result of littering and marine debris [22,23]; and (iii)

\* Corresponding author.

E-mail addresses: [Vicki.Martin@scu.edu.au](mailto:Vicki.Martin@scu.edu.au) (V.Y. Martin), [Betty.Weiler@scu.edu.au](mailto:Betty.Weiler@scu.edu.au) (B. Weiler), [A.Reis@westernsydney.edu.au](mailto:A.Reis@westernsydney.edu.au) (A. Reis), [Kay.Dimmock@scu.edu.au](mailto:Kay.Dimmock@scu.edu.au) (K. Dimmock), [Pascal.Scherrer@scu.edu.au](mailto:Pascal.Scherrer@scu.edu.au) (P. Scherrer).

<sup>1</sup> She is now a Postdoctoral Research Fellow with the Cornell Lab of Ornithology, 159 Sapsucker Woods Road, Ithaca, NY 14850, USA.

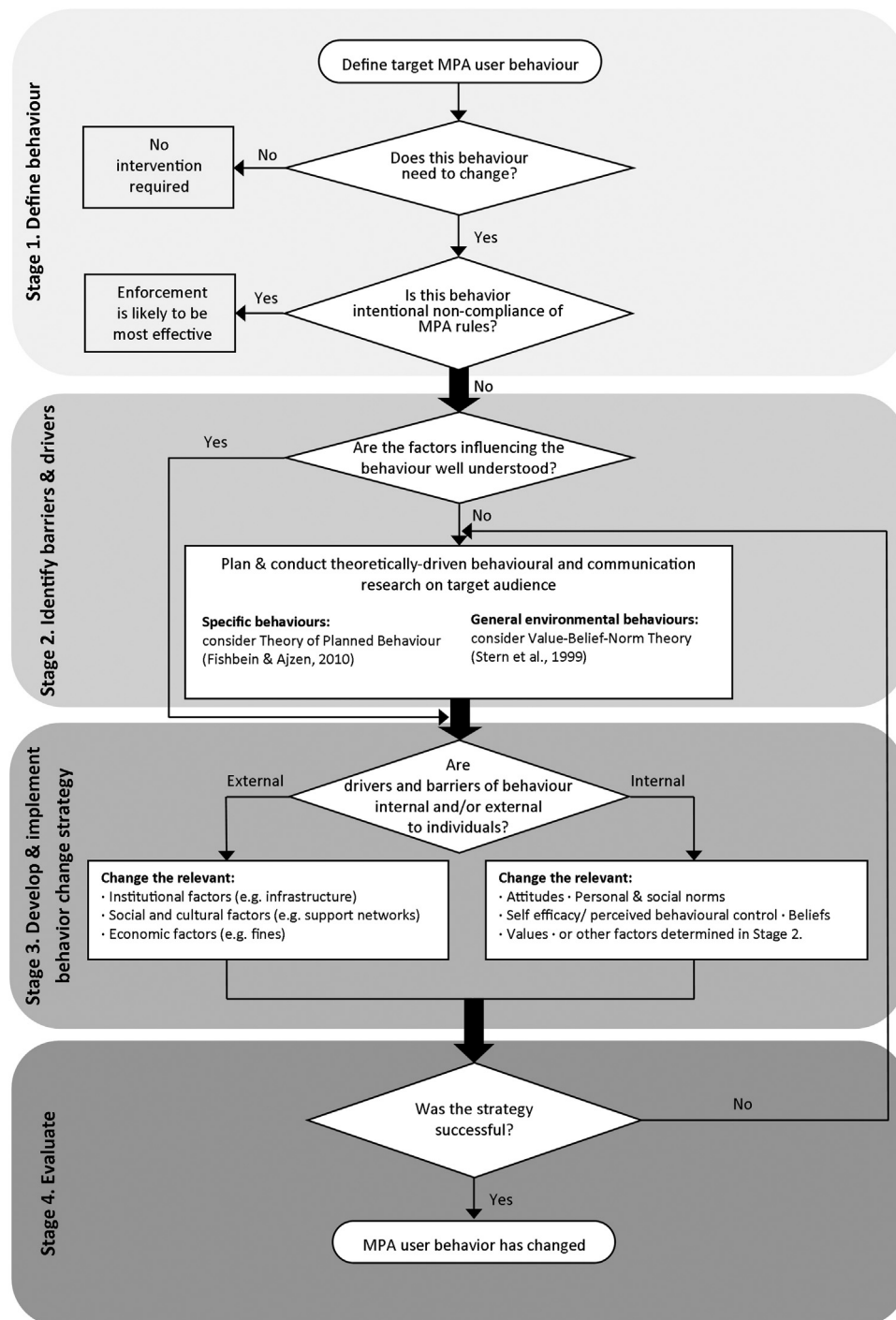


Fig. 1. Decision flowchart for a theory- and research-driven approach to influencing MPA user behaviour.

habitat damage caused by divers and snorkelers [24–27], anchor damage in environmentally sensitive locations [28], and trampling impacts on marine life [29–32]. Eliminating these impacts is not only essential for the health of the marine environment, it is also critical to marine scientific research. MPAs allow marine scientists to compare protected zones with other areas experiencing much greater pressures from certain types of human behaviours. In doing so, this research advances scientific understanding of the cause and effects of anthropogenic environmental impacts [33,34].

Recreational use in MPAs is managed by a number of mechanisms, such as regulation and enforcement, the use of physical structures, and economic incentives and disincentives [5]. Regulatory and enforcement approaches are particularly effective for managing deliberate breaches

of rules of which users are aware [35]. However, problem marine user behaviour may also occur when users are naïve or unapprised about the regulations and the links between their behaviour and the health of the ecosystem [36]. In such instances, heavy reliance on enforcement tools can be seen as excessive and conflicting with the recreational values and experiences that these areas are also designed to facilitate [5]. Surveillance and regulatory enforcement are also costly, particularly in settings such as MPAs where use can be highly dispersed both spatially and temporally. Managers seeking to prevent these unintentional problem behaviours require new, more cost-effective approaches that are appropriate for the behaviour of concern.

Ensuring that MPA resources are both protected and enjoyed by users is a challenge MPA managers need to balance [37–41]. The

Download English Version:

<https://daneshyari.com/en/article/5118033>

Download Persian Version:

<https://daneshyari.com/article/5118033>

[Daneshyari.com](https://daneshyari.com)