Everyone Loves a Success Story: Optimism Inspires Conservation Engagement

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In this era of unprecedented environmental change, optimism could help unite people to act. In the present article, we bring together insights from psychology, business, politics, and media to illustrate humanity's innate attraction to optimism and the influence it can yield in driving positive change. We advocate for greater use of optimism in the communication of conservation and provide practical steps to help conservation biologists use optimism more effectively. However, to avoid denialism and remain grounded in reality we also acknowledge the need for balance between optimism and pessimism. Such balance could not only enhance public engagement with pressing environmental issues but also encourage effective collaboration among science, government, public and industry sectors to address environmental issues.

Keywords: collaboration, conservation psychology, efficacy, optimism, pessimism

Optimism is infectious. It is characterized as the persistent expectation for positive outcomes, interpreting negative events only as temporary setbacks (Seligman 2006). Anticipating a positive outcome is a key motivator for committing to a cause and can spur individuals to action and improve group performance (Bailey et al. 2007, Luthans et al. 2008). Because human motivation and action are products of what one believes, rather than the objective truth, optimism infused with a sense of personal efficacy can inspire the uninspired and help maintain hope through gloomy times (Bandura 1997, Seligman 2006, Ojala 2012).

Although an individual's perception of environmental issues is swayed by their personal stake and societal values (Steg et al. 2014, Bain et al. 2016, Chapman et al. 2017), the infectious nature of optimism can create an atmosphere of hope that motivates people to engage and cooperate on shared goals (Barsade 2002, Karademas 2006, Luthans et al. 2008, Cvitanovic and Hobday 2018). The magnitude of society's appetite for positive environmental news has caught many by surprise (e.g., the #oceanoptimism movement reached more than 76 million twitter users in just 3 years; Knowlton 2017). With broad societal appeal, communicating optimistic conservation stories may enhance public engagement with environmental issues, whereas conservation stakeholders (i.e., government, researchers, industry) may find incentive to collaborate by building optimism on the intermediate successes of their conservation efforts (Ansell and Gash 2008, Cvitanovic and Hobday 2018).

It is easy to be pessimistic about conservation. Scientists have shown that the human destruction of ecosystems is global. They have shown that few realms of planetary life are spared (Halpern et al. 2008) and that many are in irreversible decline (Hughes 2017). Media coverage has reinforced the sense of environmental pessimism by primarily focusing on the threats and failures of conservation (Ader 1995, Hart and Feldman 2014). Even where science journalism avoids doom and gloom messaging and offers solutions and hope, there remains a tendency for their headlines to lead with alarmist rhetoric to draw reader attention (Johns and Jacquet 2018). Unwittingly, ongoing research into environmental degradation has fuelled the media's persistent use of environmental pessimism within society, which reinforces environmental pessimism within conservation science (figure 1; Swaisgood and Sheppard 2010, Morton 2017).

Despite the shock value of negative messaging, which can fuel media reporting and ratings (Serani 2008), negative environmental communication can lead to disengagement from environmental action (O'Neill and Nicholson-Cole 2009, Landry et al. 2018). Research into *fear appeals* (i.e., messages that rely on fear to encourage a listener to change their behavior) suggests that, unless listeners are made aware of a perceived pathway to a solution, fear-driven messages do not always promote action (for a review, see Ruiter et al.

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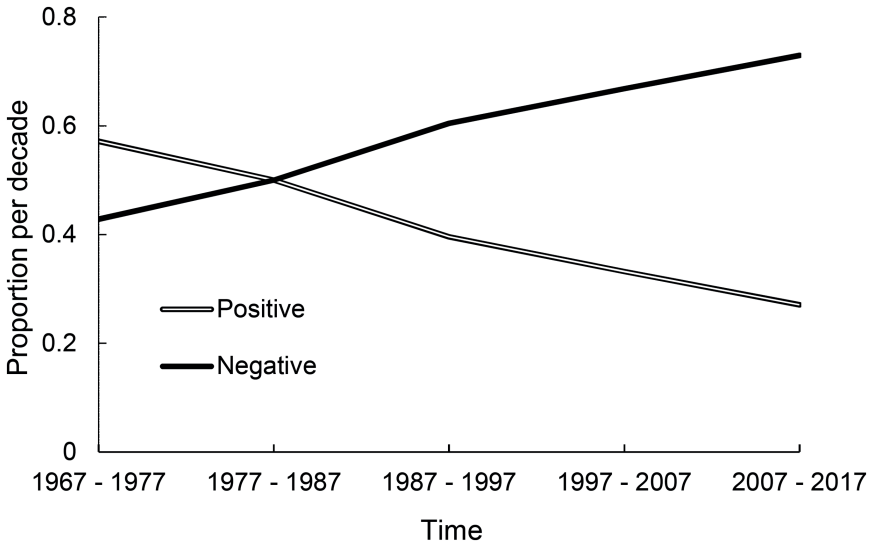

Figure 1. The broadening gap between positive and negative words used in the titles of scientific journal articles on the terrestrial or marine environment over the last 50 years. Searched negative words (*loss, degrade, threaten, decline, negative impact*) were increasingly used relative to their positive antonym (*save, rejuvenate, benefit, success *[excluding reproductive contexts],* positive impact*) in environmentally focused articles (*environment, ecology, ecosystem, habitat, biodiversity*) in the Web of Science categories of biodiversity conservation and marine and freshwater science.

2001, Serani 2008). Fear tends to promote a fight-or-flight response to problems (Levenson 1992). Therefore, fear appeals can lead to avoidance, such that listeners feel unable to take action (Ruiter et al. 2001), or—worse—to denial (i.e., psychological defense; Witte and Allen 2000).

Persistent environmental pessimism risks fatiguing society (Serani 2008, Landry et al. 2018) and perpetuates a feeling of hopelessness that diminishes our desire to collaborate and champion change (Peterson et al. 1993, O'Neill and Nicholson-Cole 2009). Social norms can reinforce avoidance, because it discourages social and public discussion of depressing topics (Fraser et al. 2013). Therefore, the scientific outreach of issues perceived to be negative can, over time, be hampered by pessimism, for which there seems to be no solution.

Here, we suggest that conservation can be more effective with stakeholder collaboration when communication of negativity and fear is balanced with positivity and hope. Although human activities tend to have uncertain outcomes, it is recognized that these outcomes may be swayed not only by negative and positive mindsets but also the belief that one's actions can influence outcomes (Bandura 1997, Seligman 2006, Bailey et al. 2007). Evidence for positive environmental outcomes are not so difficult to find: The tide is slowly turning on habitat destruction (e.g., 70%–80% reductions in commercial fishing impacts over last 5 years; Halpern et al. 2015), protection of land and sea is gaining (i.e., increased 13.4 million square kilometers marine, and 263,932 square kilometers terrestrial protected areas in 2017; UNEP-WCMC and IUCN 2018, www.protectedplanet.net), and campaigns for restoration are beginning to involve unlikely champions (e.g., Billion Oyster Project, billionoysterproject.org; Operation Crayweed, operationcrayweed.com).

In the present review, we bring together social and conservation psychology, media and communications, and business and politics to describe how optimism engages people to collaborate and work strategically on solving environmental problems. The potential of optimism to enhance performance is well recognized in business management (Luthans et al. 2008) and sports leadership (Martin-Krumm et al. 2003, Fransen et al. 2015). The emergence of environmental optimism from the prevailing culture of environmental pessimism has recognized value, even to those media that normally use shock and discord to attract audience (Tanner 2011). Although this is the "Anthropocene," the epoch of environmental decline by humans, we synthesize cross-disciplinary evidence for optimistic messages to sway environmental solutions.

Optimism inspires and unites

Optimism is a pervasive human trait (Sharot et al. 2011). The positive psychology of optimism and hope help us attain positive feelings (Bailey et al. 2007) that contrast their opposites—pessimism (psychological trait) and fear (emotional state). Optimism and pessimism inform our expectation that events will turn out positively or negatively, but although optimism is infused with achievement, helplessness is at the core of pessimism (Peterson et al. 1993, Seligman 2006). Within this duality, hope is similar to fear, in that they are both future-oriented emotions that respond to uncertainty on the basis of reward or punishment (Chadwick 2015). In contrast to fear, which provokes a fight-or-flight response, those who are hopeful for a positive outcome are more likely to remain engaged with goals and take productive action toward achieving them (Snyder et al. 2001). In the present article, we synthesize research into humanity's innate attraction to optimism and discuss how it may provide a resource for enhanced collaboration for environmental solutions. We explore how both optimistic and pessimistic messages, that appeal to hope and fear, influence such engagement. Clearly, numerous social and moral factors motivate engagement with environmental messages (Steg et al. 2014), and emotional appeals are not simple switches for mediating action (Chapman et al. 2017). But appreciating the role that emotional positivity plays in group performance (Luthans et al.

2008) may encourage greater engagement (Cvitanovic and Hobday 2018).

Eminent psychologist Martin Seligman (2006, p. 291) recognizes optimism as "a tool to help the individual achieve the goals he has set for himself." Optimistic individuals view negative events as temporary challenges while holding onto the anticipation of a positive outcome (Snyder et al. 2001, Seligman 2006). However, simply feeling optimistic does not guarantee proenvironmental action, but instead, optimism combines with a sense of personal or group ability to influence an outcome. This sense of ability (*sensu* efficacy beliefs) is a greater predictor of engagement (Bandura 1997, 2000). Psychologists have shown that perceptions of ability to influence solutions, predicts an optimistic outlook and ensuing social support for them (Karademas 2006). Therefore, optimistic messages that also build the sense of personal efficacy or collective efficacy foster greater resolve to achieve set goals (Bandura 2000, Besta et al. 2016). Efficacy provides the motivation needed for individuals to act on optimistic or pessimistic news (Hart and Feldman 2014).

Optimism is not, however, all positive news. Optimism does not guarantee success and can reduce the sense of urgency for action (Hornsey and Fielding 2016). Taken to its extreme, unchecked optimism leads to fantasy, a self-deceptive state that avoids discomforting reality by rejecting facts in preference of personal beliefs (Cole 2003, Scruton 2010). Whereas pessimists are more realistic about negative situations, blind optimists distort reality to self-serve a rosy outlook and typically lack the resolute efficacy to cope with uncertainty or disappointment (Bandura 1997, Seligman 2006). Indeed, overly optimistic messages about global environmental issues can promote inaction among listeners (Hornsey and Fielding 2016).

Optimism runs the risk of setting up an audience for disappointment if it is not adequately rooted in truth or realism. Indeed, realism, the full awareness and acceptance of the possibility of negative events, is needed to balance our optimism bias (Scruton 2010). Communication of environmental issues, therefore, should include the reality of environmental decline while providing a sense of efficacy for their solutions (Hart and Feldman 2014, Hine et al. 2016). Achieving this balance need not involve optimistic or pessimistic messaging, but optimistic messages that use a sense of efficacy can inspire engagement, as well as enhanced psychological and social well-being (Bandura 1997, Seligman 2006). Striking a balance between optimism and reality and providing success stories are becoming increasingly important to building resilience in future societies facing unprecedented environmental change (Cvitanovic and Hobday 2018, Swim et al. 2018).

Studies of the human brain suggest our optimism bias has neurological roots. A robust and persistent feature of human psychology centers on the greater effect of positive news on updating our expectations of personal life events (i.e., asymmetry in neural processing of positive and negative information; Sharot et al. 2011). This bias extends to our perception of the natural environment, with most people more optimistic about the future of their local environment than about those they seldom experience (Gifford et al. 2009). Despite humanity's optimism bias, negative events capture people's immediate attention more than positive events do (Rozin and Royzman 2001). Because of the attention-grabbing property of negative information, the media tend to attract viewers by focusing on negative outcomes (i.e., "if it bleeds, it leads"; Serani 2008), which can sway public opinion away from informed debate (Tanner 2011). Problematically for conservation, fear appeals are attention grabbing and are often presented without a solution, which cognitive research shows to reduce societal engagement (Ruiter et al. 2001).

Positive and negative emotions are both highly socially contagious (Barsade 2002, Fowler and Christakis 2008). Our emotions tend to be swayed by our personal interactions (Hatfield et al. 1993) and what we read in the media (Kramer et al. 2014), and they can spread from an individual to the emotional psychology of groups (Fowler and Christakis 2008). Repeated exposure to positive and negative experiences can lead to learned optimism or helplessness, notwithstanding individual differences in their psychological predisposition to be optimistic or pessimistic (Peterson et al. 1993, Seligman 2006). Although positive feelings can encourage creative problem-solving (Fredrickson 2001) and can readily change the way people think (Sharot et al. 2011), negative news tends to reinforce existing thought patterns (Peterson et al. 1993). Learned helplessness, in turn, is associated with reduced proenvironmental behavior among those concerned about the environment (Landry et al. 2018).

When the principles from positive psychology are applied to human performance, we improve in function and flourish (as demonstrated theoretically, experimentally, and practically; Seligman 2006). Barsade (2002) demonstrated that groups of people exposed to positive emotions have stronger performance and better cooperation, with less conflict. A positive mood can predict greater negotiation skills and the willingness to reach a compromise on group decisions (Forgas 1998). Broaden and build theory suggests that positive over negative states of mind account for greater performance and capacity to consider creative and flexible responses (Fredrickson 2001). Management psychologists show that team performance and commitment increases by enhancing the psychological capital of the team (Luthans et al. 2008). Enhanced optimism, hope, and emotional resilience strengthen performance through work satisfaction of making positive change (Youssef and Luthans 2007, Luthans et al. 2008). When used in practice, positive psychology not only enhances team coordination and problem solving (in business; Barsade 2002) but also creates winners (in sports teams; Seligman 2006, Fransen et al. 2015).

People are more engaged when they feel they can make a positive difference (Geiger et al. 2017). If people feel pessimistic about the future of the environment, they are less likely to invest in helping it (Clayton and Myers 2015, Landry et al. 2018). It is, therefore, a small wonder

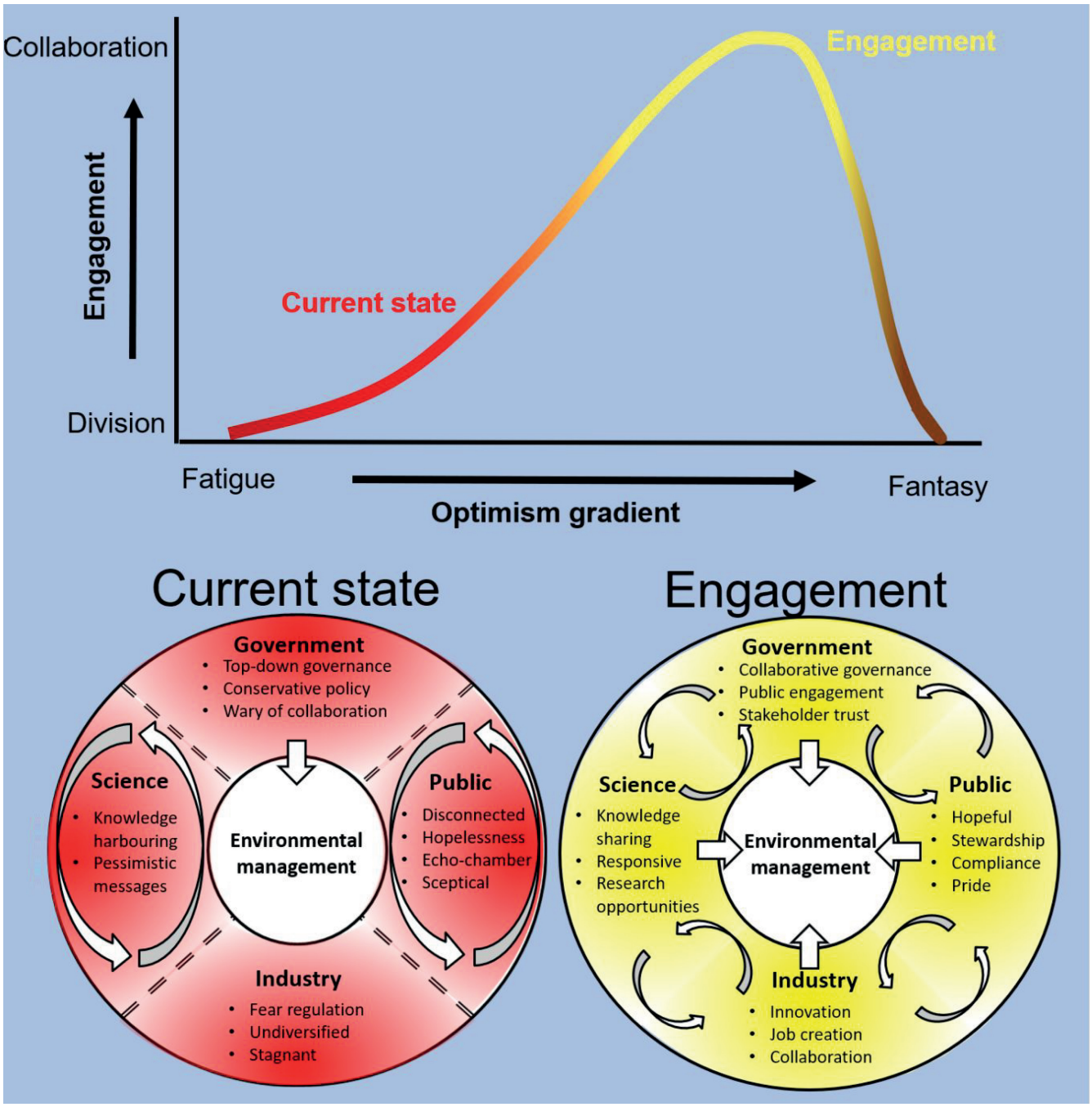

Figure 2. Conceptual model for striking a balance between environmental optimism and pessimism—key to effective engagement on conservation issues. Currently, our persistent use of pessimism may create conservation fatigue that disengages the public and deepens cultural divides among stakeholders (in red). Such a disconnect may make government more wary of negative publicity and collaboration, adopting conservative top-down management in which scientific and public sectors may remain isolated from environmental management. At the other extreme, unchecked environmental optimism can lead to self-deceptive fantasy and disengagement. Striking the balance should encourage greater public engagement with environmental issues, leading to more energized collaboration among sectors so that each informs environmental management (in yellow).

that conservation psychologists emphasize the value of connecting an individual's contribution to environmental protection with its success; positive news appears key to increasing societal engagement with conservation (Clayton and Myers 2015). Therefore, we advocate that a positive outlook about the environment might also encourage greater willingness for disconnected groups to find common ground for collaboration (e.g., community groups, environmental organizations, government; Morse 2010; figure 2).

The success of conservation projects is often strengthened by connecting groups of people who are engaged in the planning (Gleason et al. 2010). Connecting local community, scientific, and industry groups engages the full social, economic, and environmental potential of conservation projects (Lundquist and Granek 2005). Exclusion, however, often leads to noncompliance and distrust (Andrade and Rhodes 2012). Just as optimism enhances group collaboration and collective ability (e.g., efficacy in group work; Barsade 2002, Sy et al. 2005), optimism infused with efficacy might enable environmental solutions. Over shared environmental goals, it can unify disconnected groups by increasing the operational capacity, political will, and funding (Gleason et al. 2010). We advocate the value of highlighting the contribution of individuals or groups to conservation, because it provides a powerful motivator for engaging environmental solutions (Geiger et al. 2017) that encourages more lasting commitment and community stewardship (Pretty and Smith 2004, Lundquist and Granek 2005, Bailey et al. 2007).

Using optimism to inspire public engagement

Where will the next leaders come from to move conservation inaction to conservation action? Although people tend to expect the government to lead conservation (e.g., with new, greener policies; Stoddart et al. 2012), environmental leadership is driven by a diversity of sectors. Governments may have ambitions for environmental policy, but when there is a lack of public demand for the policy's benefits, enacting that policy may not align with their political agenda (Hale 2010). Facilitating public interest and collaboration often requires collective forums, which can generate policy solutions (Ansell and Gash 2008) and industrial-scale solutions (Ozaki 2011; figure 2). Indeed, environmental policy is more successful when enabled by public participation (Pretty and Smith 2004), particularly when the public recognizes industrial acceptance and scientific support (Morse 2010). In the present article, we use theory from both psychology and communications to outline a five step process to help conservation biologists balance optimism and reality to inspire public engagement.

Step 1: Know your target audience. People vary considerably in their knowledge, concern and willingness to engage with environmental solutions (Kollmuss and Agyeman 2002, Tobler et al. 2012, Schaffner et al. 2015) and holding a personal stake in an issue can be more impactful than messaging (Devine-Wright 2009, Schultz 2011). Therefore, identifying your target audience clarifies the kinds of environmental messages likely to engage them, which is the first step in making the message stick (Nisbet 2009, Hine et al. 2016). Messages that rely on impersonal data and facts, a stalwart of science communication, are difficult for lay audiences to absorb (Schaffner et al. 2015, Doubleday and Connell 2017). Knowing your target audience and the values that drive their engagement with environmental issues (e.g., an emotional attachment to a place, as in Manzo and Devine-Wright 2013; improved social benevolence, as in Bain et al. 2016) will help science communicators design their messages for greater impact (Schultz 2011, Hine et al. 2016).

Knowledge of what fundamentally concerns your target audience will inform how best to frame the environmental issue (Nisbet 2009). Audiences that are skeptical of the science or institution behind an environmental message may be best reached by avoiding inflammatory topics or politically charged terminology (e.g., global warming, climate change; Tobler et al. 2012, Hine et al. 2016). The distinction between audiences may be subtle. For example, the wholesale loss of biodiversity may concern those with a strong personal connection to nature (e.g., hikers; Nisbet et al. 2009), but other recreational groups may be more concerned about the loss of particular species (e.g., fisherman concerned with stock conservation; La Peyre et al. 2012). Some audiences may see environmental stewardship as a moral imperative for social good (Markowitz and Shariff 2012), but others may only engage with environmental issues when those issues directly threaten their personal surroundings (i.e., "not in my backyard"; Devine-Wright 2009). Understanding which issues will psychologically imprint on your target audience is critical to framing the message, and can be better understood through engagement with social and behavioral scientists.

For some target audiences, however, scientists may not be the most appropriate source for delivering environmental messages (Nisbet 2009, Osmond et al. 2010, Moser and Dilling 2011). For example, business leaders may be more appropriate when environmental issues have economic implications. Similar alignment might be found with community elders that may be more persuasive over moral issues (Moser and Dilling 2011). Particularly when an audience displays distrust of the science, science communicators that engage community leaders to communicate their message may not only benefit from greater resonance with their audience, but also gain greater insight into their audience's values and concerns.

Step 2: Build awareness of the threat. To build awareness, a dose of environmental reality provides the first step in communicating with the target audience. Without awareness of a threat people have no incentive to care. The initial shock of news of environmental decline captures attention (Serani 2008) and incentive to care. Indeed, the greater physiological imprint of negative than positive news has greater capacity to capture peoples' attention (Rozin and Royzman 2001), but as was discussed earlier, its sustained use leads to disengagement (Ruiter et al. 2001). Therefore, target audiences that are already aware of the issue may not benefit from further compounding its negativity. For these audiences, we may be better to approach them using steps three and four (below), which balance reality with optimism and agency.

Step 3: Build optimism with success stories. Establishing an optimistic outlook for solving an issue is important for inspiring audiences that recognize the environmental

problem. Describing environmental or community success stories can impart a sense of optimism for a positive outcome (Cvitanovic and Hobday 2018, Swim et al. 2018). Expectations for a positive outcome are a strong motivator for individuals to commit to a cause (Bailey et al. 2007). They generate an optimistic atmosphere around a communal task that motivates individuals to cooperate and personally invest in the solutions (Barsade 2002, Karademas 2006).

Success stories need to be relevant to the specific environmental issue and align with the fundamental concerns of the audience. For example, audiences concerned with habitat loss may find the global expansion of protected areas (UNEP-WCMC and IUCN 2018, www.protectedplanet.net) a source of optimism. Communities resistant to new regulation of their environment may find optimism in stories of similar community resistance that subsequently switched to community stewardship once the benefits of regulation were realized (e.g., marine protected areas; Ballantine 2014). Examples of the public leading successful environmental solutions can be particularly powerful for inspiring community leadership. A useful example is the Needmore Tract, in North Carolina, where a grassroots residential campaign snowballed to a partnership with government and industry that eventuated in the $19 million purchase and conservation of land earmarked for development (Morse 2010).

Step 4: Provide a pathway forward. Optimism in the absence of a sense of efficacy and concrete ideas for solutions is "little more than wishful thinking" (Bandura 1997, p. 159). Therefore, in order to capitalize on the optimism generated around an environmental issue, communicators might provide a pathway forward that builds the audience's sense of efficacy and provides opportunity for personal engagement. Importantly, connecting the individual's contribution to the success of an environmental campaign is a strong motivator for engagement with an issue (Clayton and Myers 2015). Successful environmental campaigns that promote the individuals' behavioral contribution can stimulate ownership of the outcomes, which provides motivation for sustained commitment to a cause (Bailey et al. 2007).

The pathway forward must be framed to align with the target audience's concerns. The personal cost (e.g., financial, time, effort) relative to the environmental gain of the pathway is likely a strong determinant of an individual's willingness to accept the efficiency of the solution (Kollmuss and Agyeman 2002, Tobler et al. 2012), and therefore, the environmental gain must align with their key concerns. For example, communicating the environmental benefits of behavior that reduces household energy use (e.g., purchasing energy efficient devices) may encourage those concerned about climate change, whereas those unconcerned about energy usage may be swayed by focusing on the financial benefits of adopting energy saving behavior (Arpan et al. 2013). Messages that empower consumers with low-cost solutions to environmental issues have been shown to enhance public engagement (Tobler et al. 2012, Schaffner et al. 2015).

Conforming to social norms is a strong incentive for adopting proenvironmental behavior (Schultz 2011, Steg et al. 2014). Recognizing that our own choices have the capacity to positively influence social change provides sway in communicating green products to consumers. This power of choice resonates with audiences that value community morals and benevolence (Bain et al. 2016). A good illustration is the automobile industry's sale of hybrid cars; marketed to reflect people's desire to comply with their community's values and norms (Ozaki 2011).

Step 5: Creating community spirit. Optimism can also be built by creating a sense of unity and collective capacity against a confronting problem. Such psychology was used by Winston Churchill when he told the British people that "I have nothing to offer but blood, toil, tears, and sweat"—recognizing the unpalatable reality shared by all citizens as a rallying call for hope and resilience through unity against a common problem. Appealing to such a community spirit may provide the impetus for collective engagement on environmental solutions, as believing in the collective capacity of a unified community provides motivation, commitment, and resilience among members when faced with uncertainty (Bandura 2000, Besta et al. 2016).

Inspiring the public to form community groups (e.g., of concerned citizens) can install the belief (collective efficacy) that they can have influence (Bandura 1997, 2000). Where communities feel this efficacy, they are known to generate unusual cooperation between otherwise disparate stakeholders (Pretty and Smith 2004). There are some striking examples of such group success. Public pressure drove the formation of California's Marine Life Protection Act of 1999, leading to statewide reform of marine protected areas (Gleason et al. 2010). Public campaigning led to the creation of the Great Barrier Marine Park Act of 1975 (Foxwell-Norton and Lester 2017). With leadership coming from an energized public, the snowballing effect of contributing partners can lead to greater collaboration and conservation capacity (figure 2).

Conclusion

Faced with the choice of devoting yourself to an optimistic or pessimistic movement, the choice is easy. However, the overt enthusiasm of the optimistic salesman may make you wary of a suspiciously good thing, or leave you disappointed when reality misaligns with your expectation. In contrast, the pessimist might appear to speak honestly, although their message is tiresome and deflating. Sustained conservation engagement likely needs to strike a balance between optimism and realism.

Recognizing the importance of the psychology behind environmental disengagement rather than focusing just on the science of environmental change, will assist us to develop the activities needed to revitalize the natural world (Schultz 2011, Clayton and Myers 2015). At the core of disengagement is helplessness; people need to believe that

their actions can make a difference (Bandura 1997, Geiger et al. 2017, Landry et al. 2018). We have recommended five steps toward building a sense of optimism and efficacy for environmental solutions. We advocate an interdisciplinary approach to communicating conservation science, bringing together ecologists and conservation biologists with social and behavioral scientists, to enhance conservation's palatability and resonance with the public. It is well established that using principles from psychological and communication science leads to media and marketing success; we advocate that conservation biologists would also benefit from using these insights, whether they deliver the message themselves or pass on facts for others to communicate. In seeking the wisdom of social scientists, conservation biologists can learn to engage the public through informed environmental optimism and solution.

Optimism helps find the common ground for collaboration, uniting divergent groups with the hope that our collective efforts will achieve beneficial environmental outcomes. We advocate for greater use of optimism in the communication of environmental science to rebalance our negative communication culture, a transition that may well inspire greater public engagement with environmental solutions. Although we often need a dose of reality to shock us into awareness of a problem, it cannot be denied that success stories can inspire people and bridge the gap between problem and solution.

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