

2013

Testing trial interventions designed to shift community perceptions of the benefits of parks: stage 3 technical report

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Publication details

Weiler, B, Moyle, BD & Torland, M 2013, *Testing trial interventions designed to shift community perceptions of the benefits of parks: stage 3 technical report*, report to Parks Victoria, the Department of Environment and Conservation, the Office of Environment and Heritage and the Parks Forum, Southern Cross University, Bilinga, Qld.

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ARC Linkage Project

Promoting and Managing National Parks into the 21st Century

Program 1: Testing & Shifting the Market Position Occupied by Australian Parks Agencies



Stage 3 - Technical Report

Testing Trial Interventions Designed to Shift Community Perceptions of the Benefits of Parks



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This research was supported under Australian Research Council's *Linkage Project* funding scheme (project number LP100200014).





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TESTING AND SHIFTING THE MARKET POSITION OCCUPIED BY PARKS AGENCIES

STAGE 3 – TESTING TRIAL INTERVENTIONS DESIGNED TO SHIFT COMMUNITY PERCEPTIONS OF THE BENEFITS OF PARKS



Study Background and Methods

This technical report presents a summary of the key findings from a survey undertaken with the general public, as part of an Australian Research Council (ARC) Linkage Project. The project is titled '*Promoting and Managing National Parks into the 21st Century*' and was undertaken by Murdoch (MU), Southern Cross (SCU), Curtin (CU) and Deakin (DU) Universities. The ARC Linkage Project consisted of two concurrent programs of research. This technical report relates to Program 1 of the project titled, '*Testing and Shifting the Market Position Occupied by Parks Agencies*,' which was undertaken in partnership with the Office of Environment and Heritage (OEH) in New South Wales, the Department of Environment and Conservation (DEC) in Western Australia, and Parks Victoria (PV).

Two technical reports and an annotated bibliography of previous research on the benefits of parks have already been completed and distributed to the partner agencies as well as the Parks Forum. The first technical report presented the results of Stage 1 of the research, the purpose of which was to understand the market position occupied by Australian parks agencies. This stage produced a pool of benefits that capture each participating agency's desired projected image and identified those benefits that were salient to each agency. The second technical report presented the results of Stage 2 of the project, exploring public perceptions of the benefits of Australian parks and also conducting a congruency analysis to determine if any gaps exist between the image that a park agency desires to project, and the constituent publics' perceptions of parks. Three separate supplementary reports compiling the results of a survey undertaken with park staff from the three participating agencies have also been prepared and distributed.

This technical report presents the findings of the third and final stage of the project. The purpose of Stage 3 was to trial communication interventions designed to shift the perceptions of members of the New South Wales (NSW) and Victorian (VIC) communities regarding the benefits of providing visitor experiences in parks. To achieve this in consultation with OEH and PV, marketing products that already existed for each park agency were reviewed to identify a suitable product to use in an experimental intervention, in order to evaluate the methodology and its likelihood of capturing shifts in perceptions of the benefits of parks. It was also hoped that the interventions would genuinely have an impact on community perceptions of benefits.

For NSW, the intervention consisted of a narrated PowerPoint presentation of 6 ½ minutes depicting selected segments (21 slides) of the "new" NSW National Parks and Wildlife Service's website. This intervention was designed in consultation with OEH, primarily to target the key benefits relating to heritage and culture (learning about nature, culture and heritage; connecting with heritage; connecting with culture; conservation of heritage; conservation of culture), as there were notable gaps between the directors' ratings of their desire to project these benefits and the NSW community's perceptions of these. Nature-related benefits (connecting with nature; provision of green spaces) were seen as being a secondary target of the intervention. As such, webpages were selected that conveyed the benefits of visiting (and protecting) one suburban park and a second more remote park, both of which offer varied heritage/culture based experiences and nature-based experiences, as well as protect rich heritage

resources. For VIC, the intervention was in the form of a 3 ½ minute promotional video clip relating to parks managed by PV loosely relating to the “healthy parks healthy people” (HHPH) theme. This video was produced for a world Healthy Parks Healthy People congress, and was wide-ranging and evocative in its presentation of the benefits of visiting (and protecting) parks, including video and still photography of people enjoying parks in a variety of ways. It also included upbeat narration and brief comments by national park rangers, university researchers and others being interviewed on-site. Both of these marketing tools were realistic examples of how the agency communicates with its constituent publics, and neither had yet been viewed by members of the public participating in the study.

A web-based survey with a pre-post intervention design was administered to 532 members of the NSW community and 521 members of the VIC community with the help of an on-line panel provider. The samples in both states were stratified according to region (250 urban; 250 regional), gender (250 males; 250 females) and age (200 aged 18-29; 100 aged 30-49; 200 aged 50 or over) in order to obtain sufficient sample sizes to be able to statistically analyse and compare the results between various segments of the community in each state.

The 39 benefit items in the survey instrument were identical to those used in the Directors/Executive survey and Community survey (see Stage 2 Technical Report). They were identified from the Stage 1 interviews with park managers and from previous studies on the benefits of parks. Items in the survey instrument were split into 3 categories reflecting the multiple layers of park benefits conceptualised in extant literature including *personal experiential benefits* (12 items), *personal higher-order benefits* (12 items) and *societal or community-wide benefits* (15 items) (Driver, 2008; Manning, 2011). Items were measured on 7 point Likert-type scales from ‘Very Strongly Disagree’ to ‘Very Strongly Agree’. Given the pre-post design of the surveys, respondents were asked to rate the same benefit items both before and after the intervention. Paired-sample t-tests were used to test for significance ($p < .05$) for the pre-post results.

A pilot test preceding the main study tested for priming, that is, to what extent differences between respondents’ pre-intervention and post-intervention ratings were simply a reaction to their exposure to and own recollection of how they responded in the pre-intervention questionnaire. The results strongly supported the notion that any differences between pre- and post-test responses were due to the persuasiveness of the intervention and not priming. Thus, the main study was administered without any further testing for priming.

Information such as park visitation patterns and demographic characteristics were also solicited from respondents for comparative purposes. Building on a previous scale by Miller et al. (2000) an additional 12 items were used to gauge the extent to which the intervention used mental imagery across 4 dimensions – quantity, modality, vividness and valence – to enhance the persuasiveness of the communication. Finally, there were 3 open-ended questions which sought feedback on the interventions that might help to further explain why they were or were not effective in shifting perceptions.

Study Findings

Table 1 provides a **profile of respondents** by age, gender, park visitation, and frequency of park visitation. For VIC, visitation patterns to specific areas of the state managed by PV were also measured on request by the agency. Table 1 shows that there was an even spread between age groups and gender in both states, in accordance with the stratification of the samples. Regarding park visitation, there was a slightly higher proportion of community respondents in NSW who reported that they had visited National Parks

managed by the OEH during the past 3 months (77.6%) than community respondents in VIC who reported they had visited National Parks managed by PV during the past 3 months (63.8%). For both states, the majority of people who had visited parks had done so 2 to 5 times a year (NSW 34.4%, VIC 42.5%). For VIC, the specific areas of the state managed by PV that most respondents reported to have visited within the past 3 months was *National, State and Regional parks and Conservation Reserves around Victoria*.

Table 1: Respondent Profile

	New South Wales (n=532)		Victoria (n=521)	
	%	Sample	%	Sample
AGE				
15-19 years	6.8%	36	6.5%	34
20-29 years	34.6%	184	33.0%	172
30-39 years	10%	53	10.4%	54
40-49 years	10.5%	56	11.7%	61
50-59 years	16.4%	87	19.0%	99
60-69 years	15%	80	14.8%	77
70 years +	6.8%	36	4.6%	24
GENDER				
Male	49.8%	265	49.3%	257
Female	50.2%	267	50.7%	264
PARK VISITATION IN THE PAST 12 MONTHS				
Yes	77.6%	413	62.8%	327
No	11.1%	59	25.3%	132
Don't Know	11.3%	60	11.9%	62
FREQUENCY OF PARK VISITATION				
On a daily basis	2.4%	10	1.2%	4
Several times a week	5.1%	21	8.0%	26
Once a week	5.6%	23	9.5%	31
More than 5 times a year	21.1%	87	27.8%	91
2 to 5 times a year	34.4%	142	42.5%	139
Once a year	17.4%	72	8.3%	27
Less frequently than once a year	14%	58	2.8%	9
SPECIFIC AREAS VISITED*				
National, State, Regional parks & Conserv.Res.	-	-	63.5%	331
Major metropolitan parks	-	-	31.1%	162
Bays, waterways or piers around Melbourne	-	-	35.9%	187
Cultural heritage sites like Weribee Mansion	-	-	14.4%	75

*Multiple responses permitted

New South Wales Community Respondents

Figures 1, 2 and 3, as well as Appendix A compare **NSW community respondents' perceptions before and after the intervention** for each of the three categories of benefits included in the survey. NSW community members tended to be positive about all three categories of benefits of parks, with no mean response below 4.43 for the pre-test and 4.75 for the post-test. Regarding the *personal experiential benefits* of parks managed by the OEH, the results show that the perceptions of NSW community members were generally more positive after the intervention than before the intervention (Figure 1). More specifically, 8 out of 12 personal experiential benefits were statistically significant in this regard. Concerning NSW community members' perceptions of the *personal higher-order benefits* (Figure 2) and the *societal (community-wide) benefits* (Figure 3) of visiting parks managed by the OEH, the findings show that respondents were more positive post-intervention than pre-intervention in regards to all benefit items. All of these differences were statistically significant. Thus, the NSW intervention (OEH website) was successful in positively shifting 35 out of 39 benefits.

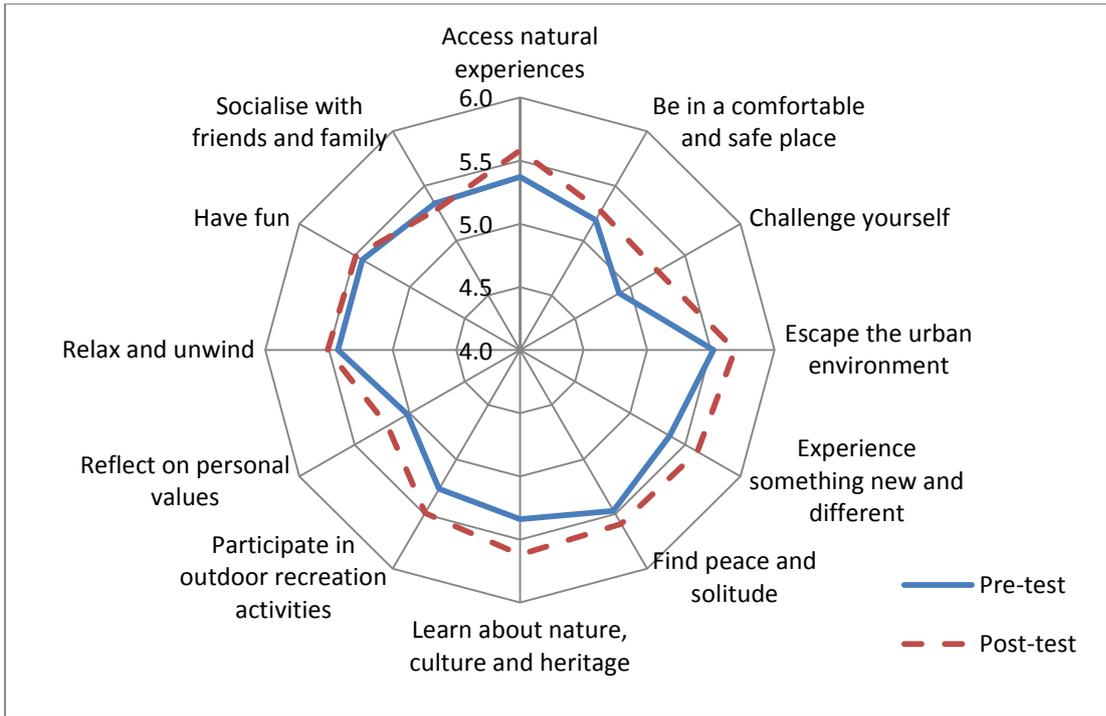


Figure 1. Personal Experiential Benefits – NSW Community Respondents

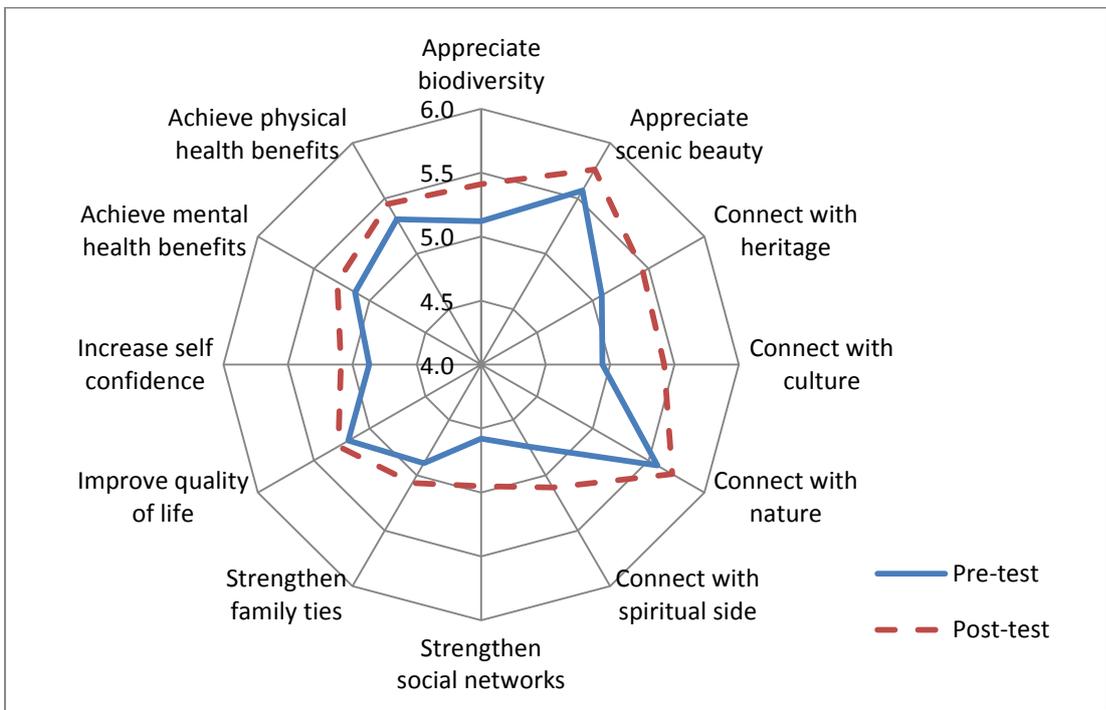


Figure 2. Personal Higher Order Benefits – NSW Community Respondents

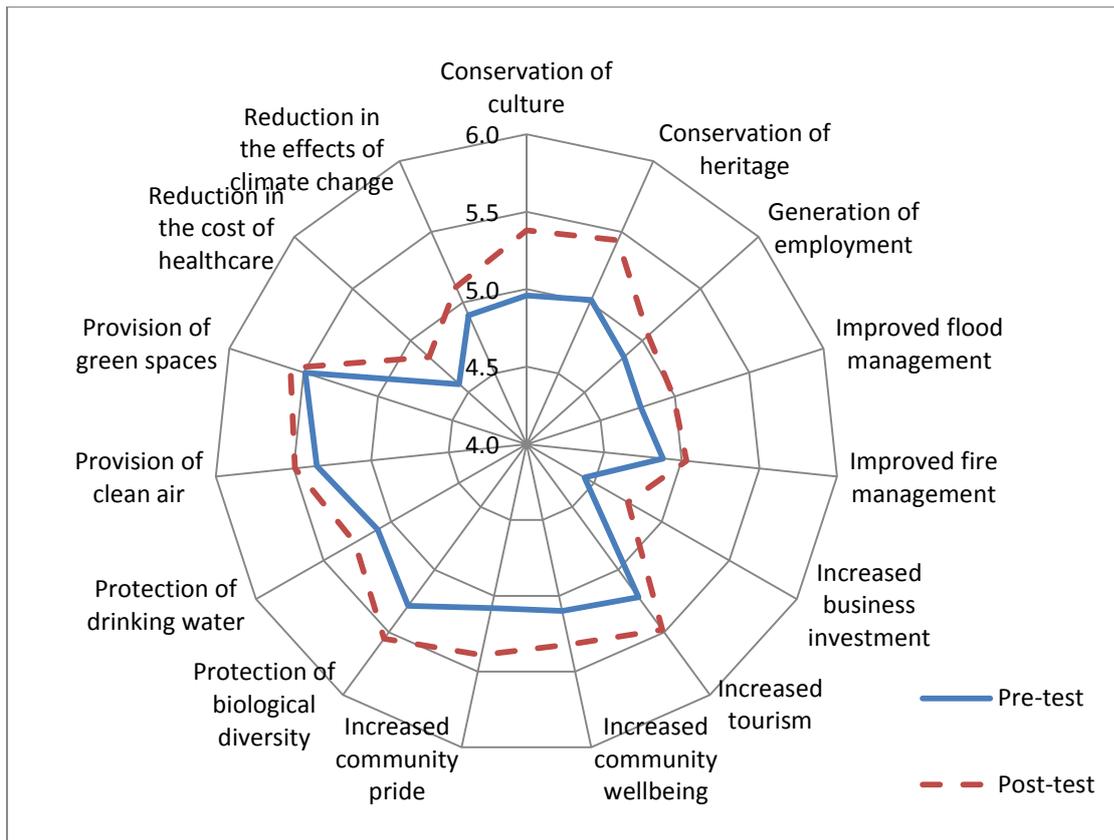


Figure 3. Societal/Community Wide Benefits – NSW Community Respondent

Victorian Community Respondents

Figures 4, 5 and 6 as well as Appendix B compare the perceptions of VIC community members, pre and post intervention, in regards to the three categories of benefits. VIC community respondents were largely positive about all three categories of benefits of visiting parks managed by PV, with no mean score below 4.50 for the pre-test and 4.87 for the post-test. The results show that the perceptions of VIC community members were consistently more positive after the intervention than before the intervention. What is more, all of these differences were statistically significant. Thus, the VIC intervention (HHP video) was successful in positively influencing 39 out of 39 benefits.

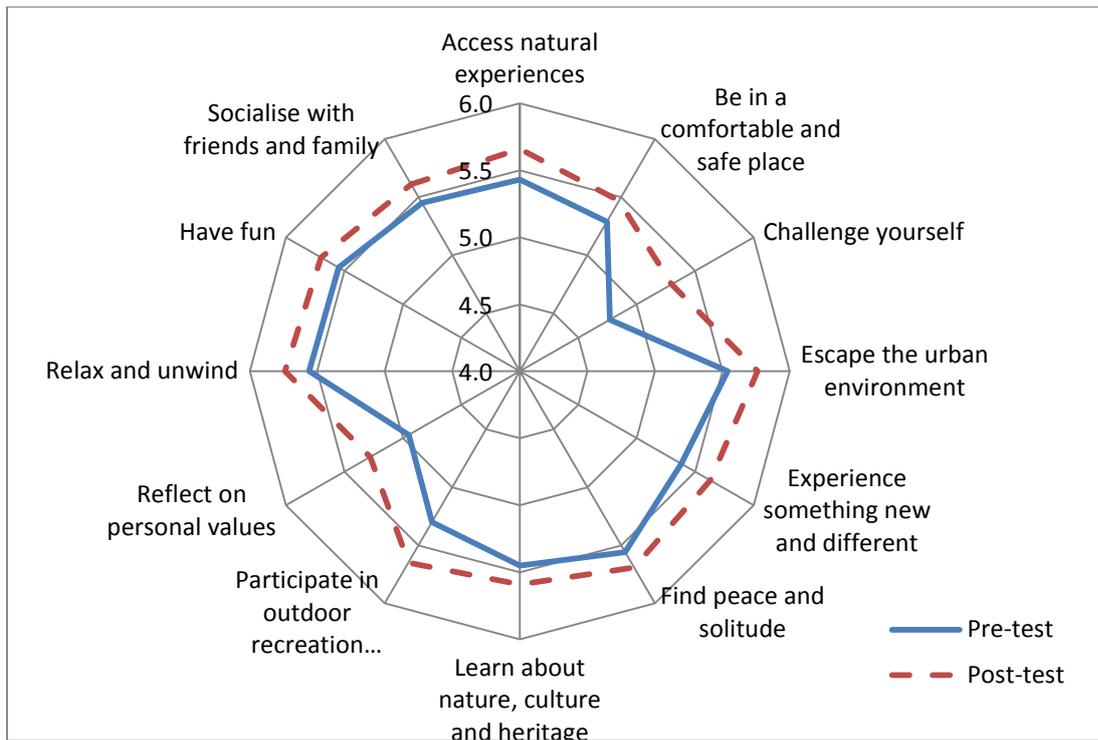


Figure 4. Personal Experiential Benefits – VIC Community Respondents

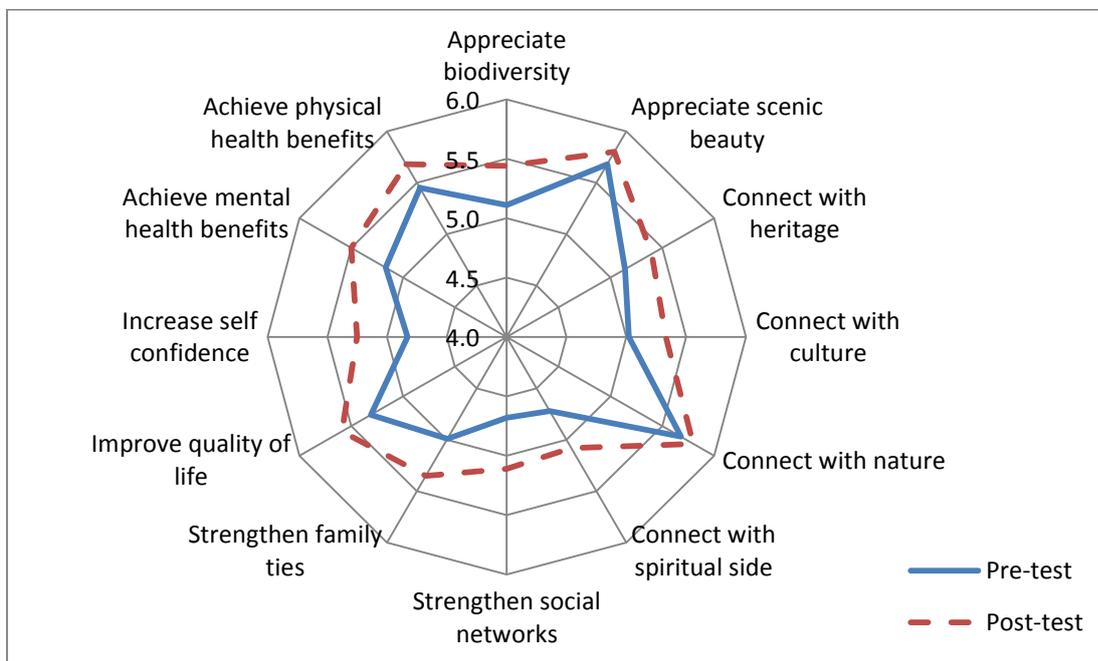


Figure 5. Personal Higher Order Benefits – VIC Community Respondents

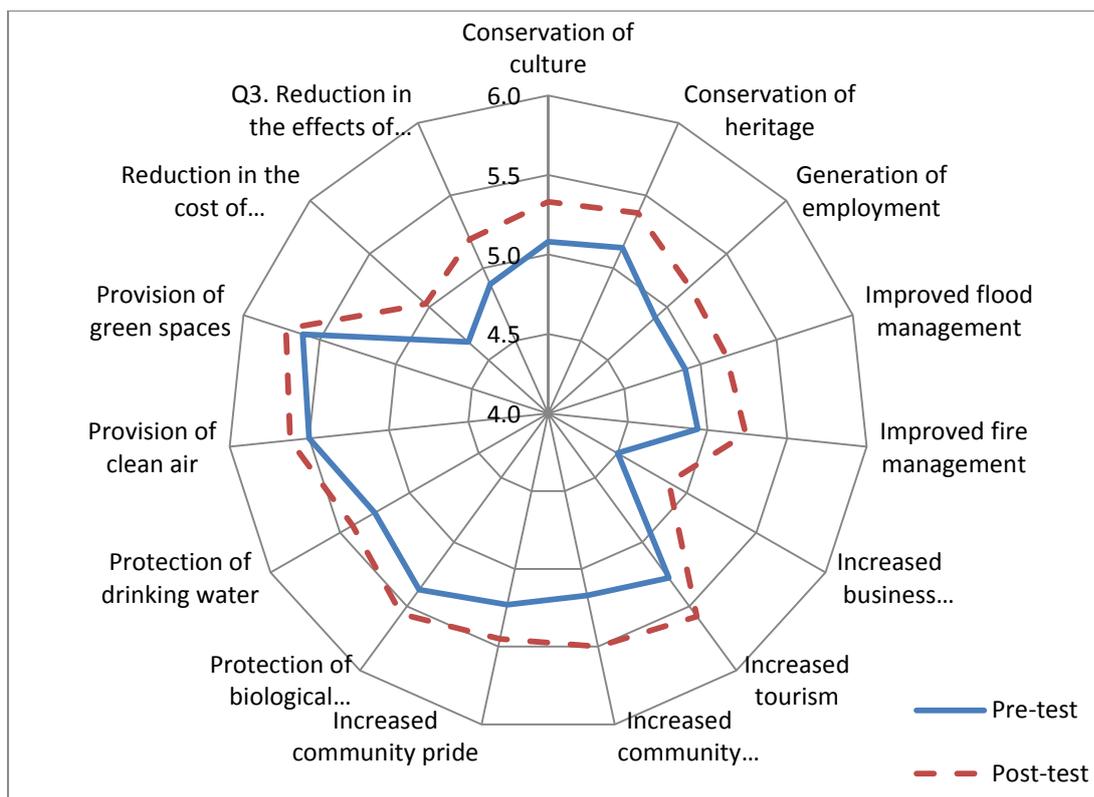


Figure 6. Societal/Community Wide Benefits – VIC Community Respondents

Comparison of Mental Imagery between NSW and VIC Respondents

Table 2 and Figure 7 present a comparison of mean ratings of NSW and VIC respondents on each of the mental imagery questions relating to quantity, modality, vividness and valence. Both interventions were seen to have high positive valence, that is, the imagery was a very favourable one. Both interventions were also rated as being quite vivid (rated above 5 on a 7-point scale), that is, the imagery was sharp and intense. The quantity (number of images) and modality (use of senses such as taste, sound, and scent) of the mental imagery were rated somewhat lower. It can be seen that the mean scores of all four dimensions of mental imagery were higher for VIC than NSW respondents. It could be concluded that the VIC intervention was more effective at using mental imagery as a persuasive communication tool. However, the responses to some of the open-ended questions provide greater insight into the similarities and differences between the two states with respect to the efficacy of the interventions.

Table 2: Comparison of Dimensions of Mental Imagery for the Two Interventions

Quantity, Modality, Vividness, Valence	OEH Website (n=532)	PV Video (n=521)
Mean level of agreement/positivity (1-7 scale)	Mean	Mean
Total Quantity scores	4.84	4.97
Total Modality scores	4.42	4.66
Total Vividness scores	5.11	5.21
Total Valence scores	5.71	5.80

Note: There was no variability in standard error – all were between 0.05 and 0.06.

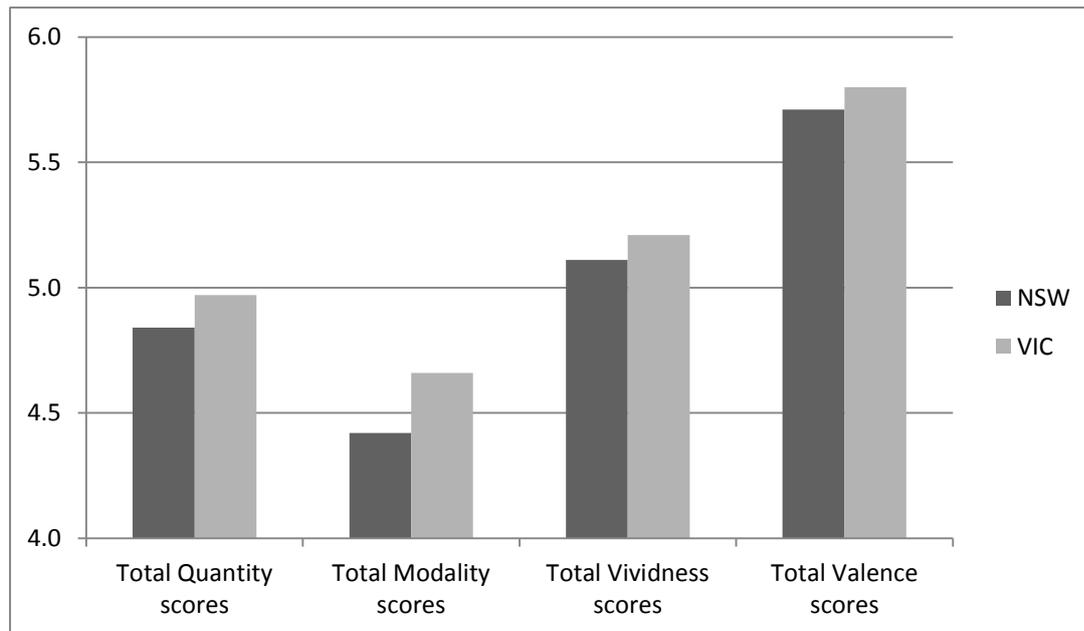


Figure 7. Mental Imagery Dimensions – OEH’s Website and PV’s Video

Table 3 and Figure 8 provide a synopsis of selected open-ended responses, grouped into categories. As shown in Table 3, the use of photos and other visuals to depict actual scenery, landscapes and nature found in national parks in the state were identified by 19% of Victorian respondents and 28% of NSW respondents as enhancing the credibility of the OEH website and the PV video. Both the video and the website were considered to be informative and were seen as adding credibility by 8% of Victorian respondents (video) and 15% of NSW respondents (website). Quite a number of respondents (3% in Victoria and 12% in NSW) also commented on the video and website as having credibility by virtue of them being sponsored by a government agency. Notably, 25% of Victorian respondents identified the use of park rangers, park uniforms, and other experts as enhancing the credibility of the PV video, and 7% of Victorian respondents commented on the use of real and everyday people doing activities in parks as important in adding credibility. As shown in Figure 8, these last two categories were not evident in the responses to the OEH website because staff or real people were not shown in the website intervention.

Table 3: Perceived Source of credibility

“Did you see anything in the Parks Victoria video / NSW website that convinced you that the information you were receiving was CREDIBLE?”	Victoria (video)		NSW (website)	
	Frequency	Percent (n=419)	Frequency	Percent (n=480)
Scenery, landscapes, nature (images, visuals, pictures/photos)	80	19%	133	28%
Park Rangers/staff, park uniforms, university researchers, other experts	103	25%	n/a	-
Informative, written text, knowledge, concise (and for NSW – website design)	33	8%	74	15%
People in parks, real people, everyday people doing activities	31	7%	n/a	-
Parks Victoria / NPWS as a government organisation – logo, signs	12	3%	58	12%

**These categories reflect responses that were most frequently mentioned in either one or both states. There were other responses such as “yes”, “all/everything”, “most of it” and “credible based on my personal experience of visiting parks” that were frequently mentioned but have not been included here because they were deemed as not particularly helpful as feedback to the park agency.*

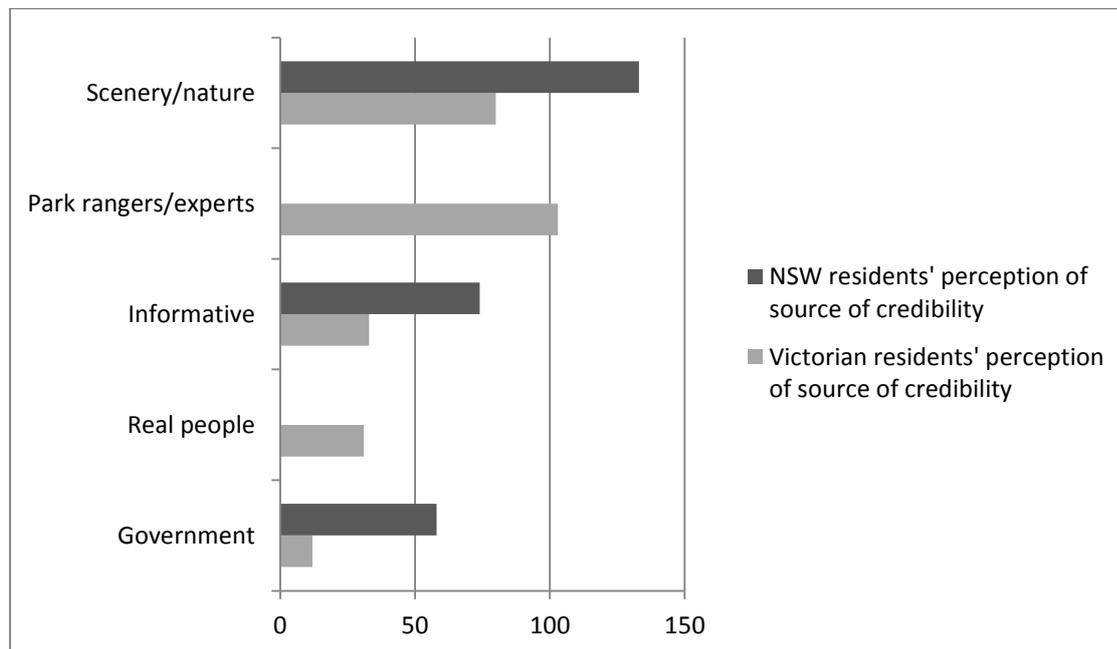


Figure 8. Perceived Source of Credibility of NPWS Website and Parks Victoria Video

There was also quite considerable general feedback in the open-ended responses regarding both the PV video and the OEH website. This feedback has been compiled into a series of tables depicting key themes to emerge from the data and is available upon request.

Analysis of differences in perceptions of benefits among NSW and VIC community members, pre and post intervention, was conducted in relation to a number of socio-demographic variables, including gender, age (under 30 years versus 30 years and over), place of residence (urban versus regional), and park visitation (visitors versus non-visitors). The results suggest that in some cases the interventions were more persuasive with some segments of the public than with others. Generally, however, both interventions were overwhelming successful in shifting the perceptions of all segments of the public.

In summary, the results of this pre-post survey provide a useful synopsis of the efficacy of the interventions in shifting perceptions of NSW and VIC community members regarding the personal and broader community benefits of parks. Future research could examine the stability of the shift in these respondents' perceptions (e.g. a 3- or 6-month follow-up study), or could develop and test communication interventions designed to influence specific target groups.

Implications for Management Practice and Further Research

This 3-year, 3-stage study highlights several issues and opportunities for the marketing and management of visitors in Australian national parks. Firstly, in both the scholarly and the park management practice literature, benefits- or outcome-focused management of parks is seen as the state-of-the-art approach to managing visitors. Australian park agencies may wish to explore the potential for using all or a subset of the instrument developed in this study as a KPI and/or benchmarking tool, to help set and maintain a clear direction in terms of the benefits that park agencies seek to project and to provide to park visitors.

Secondly, perceived benefits can be monitored over time, by simply readministering the on-line survey to both internal stakeholders (such as managers and staff) and external stakeholders (such as the state-wide survey conducted in this study). Moreover, the instrument can be readministered to target segments of the community such as the under 30s and non-visitors, both of which were found in this study to have statistically less positive perceptions of the benefits of parks. Such follow-up surveying could occur in 6 or 12 months' time and the results compared to the baseline perceptions reported in this study. The instrument can also be used or adapted to assess the perceptions of other stakeholder groups not yet surveyed, such as selected interest groups, user/activity groups, politicians, and to the board and other advisory committees of park agencies.

Thirdly, with minor wording adjustments, the instrument can also be used to determine perceptions of individual parks, and thus could be administered to visitors and to communities adjacent to national parks. Similarly, with some revisiting of the benefit items and wording, the study could be adapted to ascertaining the public's perceptions of the benefits of marine parks.

Fourthly, experimental (pre-post intervention) research similar to the trial intervention reported here could be undertaken, with communication interventions custom-designed to shift the perceptions of particular benefit items such as access to natural experiences or the ability of parks to deliver physical and mental health benefits, or to shift the perceptions of specific target groups such as non-visitors. The findings of this study suggest that both a well-designed website and a high-quality video can indeed impact perceptions of benefits, so either or both of these could be rolled out in a marketing campaign, or a suite of communication tools could be developed around specific sets of benefits.

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Appendix A - Comparison of Pre and Post Test Results – NSW Community Respondents

Personal Experiential, Personal Higher-Order and Societal/Community-wide Benefit Items	Pre-Test (n=532)	Post-Test (n=532)	T-test (paired)
Mean level of agreement (1-7 scale)	Mean	Mean	Sig. (p=0.05)
Access natural experiences	5.37	5.58	0.00
Be in a comfortable and safe place	5.19	5.27	0.06
Challenge yourself	4.90	5.25	0.00
Escape the urban environment	5.52	5.69	0.00
Experience something new and different	5.36	5.61	0.00
Find peace and solitude	5.47	5.59	0.01
Learn about nature, culture and heritage	5.34	5.62	0.00
Participate in outdoor recreation activities	5.27	5.49	0.00
Reflect on personal values	5.02	5.20	0.00
Relax and unwind	5.43	5.51	0.06
Have fun	5.43	5.49	0.13
Socialise with friends and family	5.34	5.29	0.21
Appreciate biodiversity	5.12	5.41	0.00
Appreciate scenic beauty	5.57	5.76	0.00
Connect with heritage	5.08	5.45	0.00
Connect with culture	4.94	5.42	0.00
Connect with nature	5.58	5.71	0.00
Connect with spiritual side	4.74	5.11	0.00
Strengthen social networks	4.58	4.95	0.00
Strengthen family ties	4.89	5.07	0.00
Improve quality of life	5.19	5.28	0.04
Increase self confidence	4.87	5.09	0.00
Achieve mental health benefits	5.13	5.29	0.00
Achieve physical health benefits	5.31	5.45	0.00
Conservation of culture	4.96	5.38	0.00
Conservation of heritage	5.02	5.44	0.00
Generation of employment	4.84	5.05	0.00
Improved flood management	4.77	4.99	0.00
Improved fire management	4.88	5.03	0.00
Increased business investment	4.43	4.75	0.00
Increased tourism	5.22	5.48	0.00
Increased community wellbeing	5.10	5.32	0.00
Increased community pride	5.08	5.39	0.00
Protection of biological diversity	5.29	5.55	0.00
Protection of drinking water	5.10	5.27	0.00
Provision of clean air	5.35	5.49	0.00
Provision of green spaces	5.49	5.59	0.02
Reduction in the cost of healthcare	4.58	4.84	0.00
Reduction in the effects of climate change	4.91	5.11	0.00

Note: There was little variability in standard error – it ranged from 0.05 to 0.06.

Appendix B - Comparison of Pre and Post Test Results – VIC Community Respondents

Personal Experiential, Personal Higher-Order and Societal/Community-wide Benefit Items	Pre-Test (n=521)	Post-Test (n=521)	T-test (paired)
Mean level of agreement (1-7 scale)	Mean	Mean	Sig. (p=0.05)
Access natural experiences	5.43	5.66	0.00
Be in a comfortable and safe place	5.29	5.47	0.00
Challenge yourself	4.77	5.30	0.00
Escape the urban environment	5.54	5.76	0.00
Experience something new and different	5.38	5.63	0.00
Find peace and solitude	5.56	5.69	0.00
Learn about nature, culture and heritage	5.45	5.59	0.00
Participate in outdoor recreation activities	5.30	5.65	0.00
Reflect on personal values	4.95	5.28	0.00
Relax and unwind	5.56	5.74	0.00
Have fun	5.55	5.70	0.00
Socialise with friends and family	5.45	5.61	0.00
Appreciate biodiversity	5.11	5.44	0.00
Appreciate scenic beauty	5.68	5.80	0.00
Connect with heritage	5.14	5.40	0.00
Connect with culture	5.02	5.33	0.00
Connect with nature	5.68	5.80	0.00
Connect with spiritual side	4.72	5.08	0.00
Strengthen social networks	4.68	5.11	0.00
Strengthen family ties	4.99	5.35	0.00
Improve quality of life	5.31	5.59	0.00
Increase self confidence	4.83	5.25	0.00
Achieve mental health benefits	5.17	5.50	0.00
Achieve physical health benefits	5.45	5.68	0.00
Conservation of culture	5.08	5.33	0.00
Conservation of heritage	5.14	5.38	0.00
Generation of employment	4.90	5.19	0.00
Improved flood management	4.90	5.17	0.00
Improved fire management	4.94	5.24	0.00
Increased business investment	4.50	4.87	0.00
Increased tourism	5.28	5.58	0.00
Increased community wellbeing	5.17	5.50	0.00
Increased community pride	5.23	5.45	0.00
Protection of biological diversity	5.37	5.56	0.00
Protection of drinking water	5.25	5.41	0.00
Provision of clean air	5.50	5.62	0.00
Provision of green spaces	5.61	5.72	0.00
Reduction in the cost of healthcare	4.67	5.03	0.00
Reduction in the effects of climate change	4.89	5.20	0.00

Note: There was little variability in standard error – it ranged from 0.05 to 0.06.

For more information contact:

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