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Research note: Functions of privacy in Australian wilderness environments

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Research Note

Functions of Privacy in Australian Wilderness Environments

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Abstract *This study was a replication and extension of Hammitt and Brown's (1984) original research on Westin's (1967) privacy theory. Hammitt and Brown's study identified five factors related to functions of wilderness privacy: Emotional Release, Personal Autonomy, Reflective Thought, Limited Communication—Personal Distance, and Limited Communication—Intimacy. This study followed a similar approach but was concerned with Australian wilderness privacy rather than American. Fifty-five experienced wilderness users rated 24 wilderness privacy items for level of importance. Confirmatory factor analysis failed to fully support Hammitt and Brown's original five-factor model or Westin's four-function theory. However, exploratory factor analysis produced six meaningful factors that lent support to the original work. Once again, emotional release was found to be the most important function of wilderness privacy in Australia, as was the case with Hammitt and Brown's original study in America.*

Keywords wilderness, privacy, recreation, solitude, emotional release, Australia

Introduction

This study repeats the American wilderness privacy research of Hammitt and Brown (1984) but involves Australian subjects. Because wilderness management in Australia is following an American approach without considering whether Australians have the same perceptions that Americans do with respect to wilderness privacy, the findings of this study may be important for planning the future of Australian wilderness. Because this study deals with wilderness in a particular nation (Australia) and focuses on one principal benefit of wilderness—privacy—brief overviews of Australian wilderness and wilderness privacy are warranted before considering the actual study.

Wilderness in Australia

Australian wilderness is known as "the bush." It is a special place to go for recreation and rejuvenation; Australians frequently speak of "going bush this weekend" (Mercer 1981). With a land mass the size of the contiguous United States, and a population of only 18 million people mostly living along the coastlines, Australia has plenty of inland bush and de facto wilderness. The problem for Australians may be having too much wilderness. With a vast and desolate area of bush, why bother saving it?

This belief has led them into a sense of complacency about wilderness protection. Unlike Americans with years of experience managing wilderness areas. Australians are new to the game. Legally designated wilderness areas are not yet fully protected in Australia. Although some resources have been set aside as World Heritage Areas and may someday enjoy the same legislative conservation afforded American wilderness, Australians are decades behind Americans in the race to preserve wilderness areas.

Privacy in Wilderness

Many empirical studies have investigated reasons for visiting wilderness, and some claim that positive psychological outcomes exist (Brown and Haas 1980; Rossman and Ulehla 1977). In their work on benefits of a wilderness experience, Kaplan and Talbot (1983) stated some reasons for involvement with wilderness, such as being away from others, being fascinated with the splendor of nature, and feeling coherent or compatible with the restorative environment. However, privacy seemed to be the most popular reason but was seen as applicable only in conjunction with other wilderness-related reasons. Otherwise, "padded cells would presumably be far more popular" than wilderness (p. 196).

Several studies mention the importance of privacy in a wilderness experience (Manfredo, Driver, and Brown 1983; Wellman, Dawson, and Roggenbuck 1982). Privacy is defined by Westin (1967) as the desire of individuals to determine the extent to which information about them is communicated to others and others to them. This information can be verbal and written, or it can be the kind of data that are communicated among people by close personal or social interactions. Privacy may be a voluntary or temporary withdrawal from these interactions in an attempt to get away from the pressure of the situation. "Getting away from it all" can be accomplished alone, in small intimate groups, or in a larger group, if anonymity or confidentiality are preserved (Westin, 1967). Along with this definition of privacy, Westin (1967, as cited in Hammitt and Brown, 1984, p. 154) delineated four basic aspects of privacy in his theory:

Solitude—complete isolation; the individual is separated from the group and freed from the observation of others.
Intimacy—the individual is acting as part of a small unit, seeking to achieve a close, personal relationship between two or more select members.
Anonymity—the individual is in a public setting but still seeks and achieves freedom from identification, surveillance, and social roles.
Reserve—the individual keeps a "mental distance," creates a psychological barrier against unwanted intrusion, and reserves the right not to reveal certain aspects about oneself.

Each of these dimensions provided for various functions associated with privacy (Hammitt & Brown, 1984, pp. 154–155):

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Personal autonomy—the need to avoid being manipulated or dominated wholly by others; to safeguard one's sacred individuality.

Emotional release—provides for respite from the psychological tensions and stresses of social roles in everyday society.

Self-evaluation—the need to integrate one's experiences into a meaningful pattern and to exert individuality on events.

Limited and protected communication—Westin states two aspects: (1) It provides opportunities needed for sharing confidences and intimacies with those trusted, and (2) it serves to set necessary boundaries of mental distance in interpersonal situations.

In the belief that wilderness privacy provided for these human needs, Hammitt and Brown (1984) surveyed 106 university students using Likert-type responses to the importance of 28 items concerned with Westin's four functions. Factor analysis of the responses revealed 24 useful items and a five-factor model: emotional release, personal autonomy, reflective thought, limited communication—personal distance, and limited communication—intimacy. The former two factors were as expected according to the theory of Westin. The reflective thought factor was a new functional domain discovered by Hammitt and Brown, whereas the latter two factors represented a division of the limited communication function originally described in two parts by Westin. Hammitt and Brown failed to find a factor for Westin's expected function of self-evaluation.

Overall, they concluded that this factor model tended to support the Westin theory and suggested the need for further research with different sample groups in different types of wilderness areas with different levels of use. This research study sought to do just that by replicating and extending the functions of wilderness privacy study with Australian subjects.

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Purpose

The purpose of this study was to determine the importance of various functions of privacy as perceived by Australian wilderness users. Three sub-purposes were to compare the outcomes from this research with the five-factor model from Hammitt and Brown's (1984) American study, to compare the outcomes with the four-function theory of Westin (1967), and to identify any unique outcomes associated with Australians' privacy needs relative to their wilderness environments.

Methodology

The procedures for this study followed those of Hammitt and Brown (1984). They surveyed 106 outdoor recreation students from three universities in the eastern United States. They began with a 28-item survey formulated around Westin's (1967) four functions of privacy, with 7 wilderness privacy items representing each function. Prior to any classroom discussion about wilderness privacy, students responded on a seven-point Likert-type scale to questions about the importance of each item during wilderness use. Data were subjected to exploratory factor analysis with principal component extraction (Eigen value criterion >1.0) and orthogonal varimax rotation (factor loading criterion >0.4). Five factors resulted that supported Westin's theory of privacy, and 24 of an initial 28 items were retained as useful for interpretation.

Conducted as replication and extension of the Hammitt and Brown (1984) study, this research differed only in the following three ways. First, a simple random sample of 55

wilderness users was drawn from university students (every second student from an enrollment list of 131 students, with 10 students not responding to the survey). Subjects were involved in leading wilderness trips as practical experience toward their undergraduate degree in outdoor education. Although the sample may appear to be biased by being solely composed of college-age subjects, the respective population is similar to that of Hammitt and Brown and "is known to make up a majority of wilderness users," according to Hendee, Stankey, and Lucas (1978, as cited in Hammitt 1982, 486). Second, the survey was composed of the 24 wilderness privacy items retained by Hammitt and Brown. Item wording was precisely as in the original study (for brevity, labels have been shortened on the tables presented here). Third, factor analyses maintained the same extraction and loading criteria as before. However, both exploratory and confirmatory designs were applied in an effort to substantiate the four-function theory of Westin (1967) and the five-function model of Hammitt and Brown (1984).

Results and Discussion

Respondents' ages ranged from 18 to 37 years ($M = 21.6$ years). Respondents were also asked to estimate the number of days in wilderness "bush" environments they had experienced over their three years of study. Their answers ranged from 30 days for a first-year student to 550 days for a third-year student ($M = 214$ days over the last three years, $SD = 134$). As part of their three-year course of study, students were required to participate in a minimum of 112 supervised days of practical trips and 35 unsupervised days of fieldwork placements and expeditions, therefore any days registered beyond these are the direct result of personal and private trips to experience the bush. In other words, respondents were very familiar with Australian wilderness environments and were probably more experienced users than those of the Hammitt and Brown study.

Table 1 lists Hammitt and Brown's (1984) 24 wilderness privacy items in order of importance as perceived by both American and Australian respondents, and as expressed on a seven-point scale (1 = *extremely important,* 7 = *extremely unimportant.* The original rankings from Hammitt and Brown's study are listed strictly for comparison. For the most part, Australian and American respondents were fairly congruent in the importance ratings they gave for wilderness privacy items. Nonparametric analysis of the correlation between the ranked importance of American and Australian lists confirmed this (Spearman rho = 0.66, $p < 0.01$).

To carry out the first two sub-purposes of this study—comparison of Australian privacy needs with the five-factor model of Hammitt and Brown and the four-function theory of Westin—two separate confirmatory factor analyses of the 24 items were carried out seeking five- and four-factor structures. Neither of these analyses presented clean factor formation. Factor structure was similar for items related to emotional release, but the structure was dissimilar for items related to reflective thought. Australian privacy needs appeared to be slightly different from the American in this case, and only partial support of past research could be established by confirmatory analyses.

Therefore, an exploratory factor analysis was performed in an effort to permit free factor formation and thus address the third sub-purpose of this study: determining the unique wilderness privacy needs of Australians. Table 2 details the factor loadings from the exploratory analysis by using principal-components extraction of factors (with eigenvalues >1.0) and orthogonal varimax rotation of factors (with loading coefficients >0.4). Six meaningful factors resulted and all 24 of the original items, those retained by Hammitt and Brown, met the factoring criteria.

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Table 1
Relative Importance of 24 Privacy Items to Australian Wilderness Users as Compared with American Rank Order (after Hammitt and Brown 1984)

American Rank	Australian Rank	Items: Use of Wilderness for . . .	*M*	*SD*
3	1	Emotional release from everyday life	1.77	0.92
12	2	Regrouping one's thoughts	1.92	0.76
6	3	Being alone with personal thoughts and feelings	1.98	0.11
2	4	Disengaging from everyday social roles	2.02	1.12
10	5	Releasing psychological stress	2.05	0.16
4	6	Developing a sense of independence	2.06	0.87
13	7	Identifying one's inner self	2.11	0.95
1	8	Resting the mind from anxiety and mental fatigue	2.18	1.25
17	9	Recovering from troubled or depressed moments	2.19	1.18
15	10	Reflecting on past experiences	2.25	1.01
11	11	Experiencing a period of personal autonomy	2.27	0.82
7	12	Thinking through personal matters and concerns	2.36	0.95
18	13	Development of individuality and spiritual concerns	2.36	1.27
21	14	Evaluation and redirection of lifetime goals	2.37	1.11
5	15	Autonomy and self-identity	2.43	0.98
22	16	Maintaining mental distance from other individuals	2.45	1.34
9	17	Self-evaluation	2.50	1.15
8	18	Maintaining one's sense of individuality	2.51	1.16
16	19	Communicating with a few friends	2.54	0.95
14	20	Releasing physical tension	2.66	1.14
20	21	Sharing confidences and intimacies with those you trust	2.76	1.21
19	22	Evaluating personal matters with intimates friends	2.89	1.08
23	23	Limiting visual and verbal interaction with strangers	2.94	1.44
24	24	Planning coming events	3.40	1.23

Note. Rated on a scale from 1 (*extremely important*) to 7 (*extremely unimportant*).

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As found in Hammitt and Brown's model, the first factor to form was Emotional Release. This factor shared two items in common with the same factor from Hammitt and Brown's list but also included two items concerned with "release of psychological stress" and "physical tension." Neither of these items appeared in the original emotional release factor of Hammitt and Brown, yet they lend additional credibility to the structure of the Australian Emotional Release factor because both were concerned with types of release.

The second factor was Personal Autonomy, also present in both model and theory. Four of the five items composing this factor were common to that of Hammitt and Brown. However, the fifth item concerning "individuality and spiritualism" did indeed appear to fit with personal autonomy yet did not load on this factor for Hammitt and Brown. Instead, two items from Hammitt and Brown's Personal Autonomy factor, concerned with "identifying one's inner self" and "self-evaluation," loaded on the self-evaluation factor. This factor is discussed later.

The third factor Limited Communication—Intimacy was composed of two items.

Table 2
Exploratory Factor Analysis for the 24 Wilderness Privacy Items with Principal-Component Extraction and Orthogonal Varimax Rotation

Factor	Use of Wilderness Privacy for . . .	*M*	Loading Coefficient
	1: Emotional Release (factor mean = 2.17)		
	Emotional release from everyday life	1.77	.811
	Recovering from troubled or depressed moments	2.19	.772
	Releasing psychological stress	2.05	.600
	Releasing physical tension	2.66	.554
	2: Personal Autonomy (factor mean = 2.33)		
	Maintaining one's sense of individuality	2.51	.751
	Autonomy and self-identity	2.453	.706
	Development of individuality and spiritual concerns	2.36	.609
	Experiencing a period of personal autonomy	2.27	.600
	Developing a sense of independence	2.06	.541
	3: Limited Communication—Intimacy (factor mean = 2.37)		
	Being alone with personal thoughts and feelings	1.98	.746
	Sharing confidences and intimacies with those you trust	2.76	.569
	4: Limited Communication—Personal Distance (factor mean = 2.40)		
	Resting the mind from anxiety and mental fatigue	2.18	.803
	Maintaining mental distance from other individuals	2.45	.785
	Disengaging from everyday social roles	2.02	.743
	Limiting visual and verbal interaction with strangers	2.94	.732
	5: Self-Evaluation (factor mean = 2.47)		
	Evaluation and redirection of lifetime goals	2.37	.714
	Self-evaluation	2.50	.668
	Identifying one's inner self	2.11	.576
	Evaluating personal matters with intimate friends	2.89	.491
	6: Reflective Thought (factor mean = 2.49)		
	Regrouping one's thoughts	1.92	.844
	Reflecting on past experiences	2.25	.756
	Planning coming events	3.40	.740
	Communicating with a few friends	2.54	.678
	Thinking through personal matters and concerns	2.36	.670

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Each item appeared to come from different, but related, factors in Hammitt and Brown's model. Several of the other items from the limited communication factors of Hammitt and Brown loaded onto a fourth factor, called Limited Communication—Personal Distance. Perhaps these latter two factors from the Australian responses are simply a rearrangement of the two similar factors from American responses.

The fifth factor, Self-Evaluation, was not part of Hammitt and Brown's model, but was one of the initial four theorized by Westin. The four items of this factor were all concerned with evaluation and yet were found to be spread throughout the factors identified in Hammitt and Brown's model. Some of the evaluative items came from Hammitt and Brown's Personal Autonomy factor.

The sixth and final factor, Reflective Thought does not support Westin's original theory but does support the model of Hammitt and Brown (1984). They found this "new functional domain" (p. 156) and claimed it to be "most closely related to Westin's self-evaluation" (p. 159) function, because they were unable to form a clean Self-Evaluation factor from the American responses.

Although wilderness exists as a state of mind and is perceived in a culturally bound context (Nash 1982), the difference in factor structure may not be due entirely to the variance between Australian and American societies but may be a result of sampling more experienced subjects. This consideration is further fuelled by two related studies, with experienced subjects from the eastern United States, conducted on different aspects of wilderness privacy. In *laboratory* research conducted on 109 college students, from similar universities to the Hammitt and Brown study but with an average of 6.5 years of backpacking experience, Hammitt (1982) investigated importance for 20 new items concerning Westin's four aspects of wilderness privacy. He wrote that items of the "greatest importance seemed to involve two issues: (1) freedom of choice in terms of one's actions, thoughts, and use of time, and (2) a natural environment free of human influence. The item receiving the highest rating, 'the tranquility and peacefulness of the remote environment' seems to characterize both of these issues" (p. 487). His factor analysis produced four dimensions: Natural Environment, Cognitive Freedom, Intimacy, and Individualism free these experienced subjects.

In a later *field* study, Hammitt and Madden (1989) found similar results from their survey of 184 experienced backpackers on the Appalachian Trail in the Great Smoky Mountains National Park. Using the same 20 items as the previous *laboratory* study, their factor analysis produced five dimensions: Natural Environment, Solid Cognitive Freedom, Individual Cognitive Freedom, Intimacy, and Individualism for these more experienced and actively engaged subjects. They also reported differences between laboratory and field subjects, when "laboratory respondents found the cognitive and societal freedom aspects to be [more] important" (particularly intimacy) and "field respondents . . . rating the natural, noise-free aspects of the environment as [more] important" (p. 297).

Aside from the natural environmental aspect of wilderness, these researchers concentrated on the relative importance of cognitive freedom to these experienced wilderness users. The primary difference in this study, other than nationality, was the Australians having spent considerably more time in the bush than the American subjects. As with Hammitt and Madden's (1989) findings, this more experienced group placed cognitive items lower down in their list of importance. Could the difference be due to experience rather than involvement and participation?

In summary, the first two factors derived from the Australian data directly support both model and theory, with the middle two factors supporting a structural rearrange-

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ment of two factors from Hammitt and Brown's five-factor model or a split of one function from Westin's original four-function theory. Of the last two factors to form, one supports Hammitt and Brown's model, whereas the other supports Westin's theory. Relative importance among items and factors seem parallel for this wilderness user study of Australians and for Hammitt and Brown's study of Americans.

Conclusions and Recommendations

Westin (1967) theorized that privacy had four functions: Personal Autonomy, Emotional Release, Self-Evaluation, and Limited and Protected Communication. In their American research on wilderness privacy, Hammitt and Brown (1984) found five factors that supported those functions: Emotional Release, Personal Autonomy, Reflective Thought, Limited Communication—Personal Distance, and Limited Communication—Intimacy. They failed to find a factor for the Self-Evaluation function but reasoned that their newly found factor, Reflective Thought, was a sufficient substitute. In this Australian study, six factors arose that covered all the functions: Emotional Release, Personal Autonomy, Limited Communication—Intimacy, Limited Communication—Personal Distance, Self-Evaluation, and Reflective Thought. These factor structures clearly substantiated the model of Hammitt and Brown (1984) and supported the theory of Westin (1967). For the most part, Australian perceptions of wilderness privacy appeared to be similar to those of the Americans. In both studies, Emotional Release was found to be near the top of the lists for individual privacy items and for factored functions.

"There is an increasing trend for Australian urban dwellers to seek out wilderness environments and, in particular, challenging wilderness experiences" (Scherl 1989, 123). Therefore, managers of national parks and wilderness-like areas of Australian bush would do well to provide outdoor recreational experiences that deal with this trend and cater to these needs. Perhaps, the creation of designated wilderness areas in Australia is one solution to address the need for privacy. In this manner, some areas could be visited for challenge, emotional release, solitude, and reflective thought. The American approach to resource management may well be an appropriate way to plan for the future of Australia's wilderness.

The utility of Westin's theory is apparent from Hammitt and Brown's model and from this study. A comparison of privacy functions across varying environments with different groups of users from other nations is suggested for further research. Then, the "logical next step is to field test the model in a wilderness area" (Hammitt & Brown, 1984, p. 164). Finally, one area of further research ought to be an investigation of privacy needs in relation to the user's level of experience.

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