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Examining the dimensions of a lifestyle tourism destination

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Received February 2006
Revised March 2007
Accepted April 2007

Abstract

Purpose – To develop and test a measurement model for the combined study of involvement and place attachment in a tourism context.

Design/methodology/approach – The study was conducted in South Australia, a state that has positioned itself as a lifestyle tourism destination. Tourism involvement was conceptualised as a multidimensional construct consisting of centrality to lifestyle, attraction, self-expression, and food and wine. Place attachment was also conceptualised as a multidimensional construct consisting of place identity and place dependence. Exploratory and confirmatory factor analyses were used to develop and test a measurement model using survey data from tourists in South Australia.

Findings – A six factor measurement model was developed and found to have a reasonable fit with the data.

Research limitations/implications – The present study findings suggest that a viable theoretical, practical, and methodological basis can be established to measure the relationships among the involvement and place attachment constructs in a tourism context. This establishes a sound foundation for further examination of the predictive nature of the relationships between the constructs.

Practical implications – A better understanding of involvement dimensions and the extent to which tourism experiences are rooted in place may be of invaluable assistance in the marketing of tourism destinations.

Originality/value – Involvement and place attachment have received considerable study as individual constructs in tourism contexts, however their study in combination has been undertaken only recently, and almost exclusively in leisure and recreation contexts. This study extended the scope of the combined examination of involvement and place attachment into a tourism context.

Keywords Tourism, Lifestyles, Measurement, Modelling, Australia

Paper type Research paper

Introduction

The relationship between the interest that consumers attach to the consumption of goods, services, and experiences and their affective bond with specific places has been of growing interest to researchers in the leisure, recreation, and tourism fields. The two concepts used to measure the relationship, involvement and place attachment, have received considerable study as individual concepts in leisure and tourism contexts, however their study in combination has been undertaken only recently, and almost exclusively in leisure and recreational contexts (Kyle *et al.*, 2003). This study extends the scope of the combined examination of involvement and place attachment dimensions into tourism, using tourism experiences as the involvement attitude object

This research is an outcome of a project funded by the Sustainable Tourism Cooperative Research Centre (STCRC), established by the Australian Commonwealth Government. The study is a collaboration between the STCRC, the University of South Australia, and the South Australian Tourism Commission.

International Journal of Culture, Tourism and Hospitality Research
Vol. 2 No. 1, 2008
pp. 44-66

1750-6182
DOI 10.1108/17506180810856130

and five tourism regions in South Australia as the place references. The aim was to develop a measurement model that could be used to examine the relationship between involvement and place attachment dimensions in a tourism context. It is proposed that the model will be of value to destination marketing managers in helping them to recognise how an understanding of tourists' attitudes towards involvement and place attachment may constitute an element of competitive advantage in destination marketing strategies.

Involvement and place attachment

Consumer involvement can be defined as the perceived personal importance and/or interest consumers attach to the acquisition, consumption, and disposition of a good, service, or an idea (Mowen and Minor, 1998, p. 64). From the early conceptual work (Bloch and Bruce, 1984; Selin and Howard, 1988) linking leisure with involvement, most leisure involvement research has focused on activity contexts (Dimanche and Havitz, 1994). Specific tourism involvement studies have been less prevalent, and include grouped touristic activities (Dimanche *et al.*, 1991); tourist profiles (Gursoy and Gavcar, 2003); opinion leadership (Jamrozy *et al.*, 1996) and travel motivation and destination selection (Josiam *et al.*, 1999). The reason for wide research interest in leisure involvement is that, relative to other products and services, touristic activities tend to engender high levels of both enduring and situational involvement (Havitz and Howard, 1995). In a paper reviewing 52 leisure involvement data sets over a ten-year period, Havitz and Dimanche (1999) concluded that involvement has proven to be a reasonably good variable for explaining and predicting leisure behavior. The same authors have also affirmed that the consumer involvement profile (CIP) multidimensional scale originally developed by Laurent and Kapferer (1985) has proved reliable and valid in touristic contexts (Dimanche and Havitz, 1994). Consistent with these findings, the CIP scale was selected for use in this study, which examined the applicability of a modified version of the CIP scale, using the attitude object of tourism experiences to better understand the nature of tourists' involvement.

Place attachment is conceived as an affective bond or link between people and specific places (Hidalgo and Hernandez, 2001). Leisure researchers have studied place attachment primarily as a psychological element of recreation experiences (Williams, 2002). The place attachment construct has been defined as having two distinct dimensions: place identity, which refers to a symbolic or affective attachment to a place, and place dependence, which refers to a functional attachment to a place (Backlund and Williams, 2003).

The study of involvement and place attachment in combination is an emerging stream in leisure research. There is indirect evidence suggesting involvement with activities leads to attachment to settings (Kyle *et al.*, 2004a). The use of the place attachment and involvement constructs in combination has occurred only recently in leisure studies, and in the context of recreation. Moore and Graefe (1994) used the conceptual frameworks of activity specialisation and place attachment to study recreation trail users, finding predictive relationships that were moderated by frequency of use. Bricker and Kerstetter (2000) studied whitewater recreationists, using involvement to measure levels of specialisation and levels of place attachment to a particular river. A relationship was noted between dimension levels of specialisation and place attachment. Moore and Scott (2003) used commitment and place attachment to

study users of a trail in a park, and found predictive relationships between the dimensions. Kyle *et al.* (2003) investigated the relationship between activity involvement and place attachment through a study of hikers on a particular trail. A relationship was also noted between dimension levels of involvement and place attachment, along with some predictive properties of a proposed model. Their analysis of data gathered from hikers on the Appalachian Trail in the eastern USA has provided the basis for a number of studies along similar lines of enquiry, all of which have contributed insights into the underlying motivations for recreationists' engagement in specific leisure pursuits and visitation to specific recreation settings (Kyle *et al.*, 2004b). Hwang *et al.* (2005) sampled groups of national park visitors in Taiwan, finding that both involvement and place attachment had positive effects on perceived service quality and satisfaction. These results suggested the value of combining involvement and place attachment as measures in the current study of tourism experiences. By combining examination of the dimensions of involvement with those of place attachment, this study sought to assess the suitability of measuring both in a tourism context.

Research method

The objective of the study was to develop and test a measurement model for the constructs hypothesised to be measured by the instrument employed in this study (Byrne, 2001, p. 98). A survey was conducted of tourists visiting five regions of South Australia. Exploratory factor analysis (EFA) was performed to check the dimensionality of the instrument before using confirmatory factor analysis (CFA) to establish a model for the manner in which the instrument measures the constructs designed to measure tourists' involvement and place attachment in tourism experiences. Tourism involvement was conceptualised as a multidimensional construct consisting of centrality to lifestyle, attraction, and self-expression. Facing increasing competition to attract tourists, the South Australian Tourism Commission – SATC (2002), the destination management organisation, has developed a strategy using lifestyle as a tool for destination marketing. As South Australia markets itself using the food and wine aspects of the lifestyle of the destination as a point of difference, a lifestyle dimension was also included that attempted to measure tourists' attitudes towards how food and wine feature as elements in their tourism experiences in the state. Place attachment was also conceptualised as a multidimensional construct consisting of place identity and place dependence.

Questionnaire design

The questionnaire consisted of multiple-item scales using a five point Likert-type response format (1 – strongly disagree to 5 – strongly agree). The scale items were based on prior research from the involvement and place attachment literature, including the research by Kyle *et al.* (2003), who combined involvement and place attachment measurements in their study of hikers on the Appalachian Trail, and Kim *et al.* (1997), from whose study on bird watching in Texas additional centrality to lifestyle items were drawn. Respondents were informed that they would be asked to consider issues surrounding their tourism experiences. The first section of the questionnaire was designed to measure the consumer involvement construct of attraction (five items), centrality to lifestyle (ten items), and self expression (five items). The second section was designed to measure the place attachment construct of place

identity (four items) and place dependence (four items). The third section was designed to measure possible elements of lifestyle tourism around themes related to lifestyle of the destination, and how food and wine feature in tourism experiences (seven items). The last section captured demographic data including gender, residence, age, marital status, education, employment, income, method of travel, and accommodation.

Pilot survey

A pilot test of the questionnaire was conducted in August 2004 in the Adelaide and Barossa tourism regions of South Australia. A combination of interviewer- and self-administered methods was used to gather data in order to test the suitability of the instrument to be executed by both methods, which was confirmed through analysis of the data. The researcher and four student research assistants attended the survey sites to gather data, and 163 valid questionnaires were completed during the pilot test. EFA and reliability tests of the pilot data resulted in modification of the instrument to produce the questionnaire for the main survey.

Sample

This study examined five tourism regions in South Australia: Adelaide, Barossa, Flinders & Outback, Kangaroo Island, and McLaren Vale/Fleurieu. The choice of these regions was guided by advice received from local tourism industry professionals, who were asked to nominate a variety of types of locations sufficient to provide representative coverage of the tourism regions of the state (Gross, 2005). A map of South Australia's twelve tourism regions as defined by the South Australian Tourism Commission for destination marketing purposes is provided in the Appendix. The sample frame consisted of adult tourists, staying at least one night away from home and attending a Visitor Information Centre (VIC) or an attraction (e.g. wine cellar door or resort) in one of the five regions. Considerations that guided sample size included attaining a minimum ratio of five cases to every variable, with not less than 100 cases for EFA (Gorsuch, 1983, p. 332). Data gathering produced a ratio of 13.6 cases per variable, with 476 cases, and a range of 33-100 cases per survey location.

Data were gathered from November 2004 through May 2005 by self-administered questionnaire. Survey forms were distributed by site staff and the researcher at the ten survey sites. An information sheet describing the study was made available to all respondents, and no contact details were requested, thus ensuring anonymity. Completed surveys were returned to the researcher in the reply-paid envelope provided, either posted directly by the respondent or forwarded by site staff. A total of 1,338 survey forms were distributed from the ten survey sites, and 494 completed forms were received for a return rate of 37 percent. Of the 494 completed responses received, 476 were usable (96 percent). Half of 1 percent (0.51 percent) of the data were missing and were replaced with means. Completed usable surveys received by location are shown in Table I.

Characteristics of respondents

A total of 57 percent of the respondents ($n = 476$) were female, 60 percent resided in Australia, and the local state of South Australia accounted for the largest domestic share of visitors at 32 percent. The largest share of international visitors (70 percent) was from Europe. The mean age of respondents was in the 40-49 range, 56 percent

Survey location	Visitor Information Centres (VIC)	Attractions	Total usable surveys	Percent
Adelaide VIC	33		33	6.9
Adelaide attraction		50	50	10.5
Barossa VIC	38		38	8.0
Barossa Attraction		100	100	21.0
Flinders & Outback VIC	42		42	8.8
Flinders & Outback attraction		49	49	10.3
Kangaroo Island VIC	47		47	9.9
Kangaroo Island Attraction		33	33	6.9
McLaren Vale/Fleurieu VIC	37		37	7.8
McLaren Vale/Fleurieu attraction		47	47	9.9
Total	197	279	476	100.0

Table I.
Completed usable surveys by location

were married, and 53 percent had either an undergraduate and/or postgraduate degree. About 62 percent of respondents were employed either full time (46 percent) or part time (16 percent). Respondents reported a mean annual household income in the $60,001-80,000 Australian dollar range. Travel to the destination by automobile was the largest mode of transport used (47 percent), and 47 percent of respondents stayed at a hotel/motel/bed and breakfast type of accommodation (Table II).

Results

As samples were drawn from two types of survey locations, attractions and VIC's, the question arose as to whether data generated from both locations were equivalent and could be pooled for analysis, or whether they differed such that they must be analysed separately (Gorsuch, 1983, p. 334). To answer this question, a comparison of factorial structures was performed using SPSS 12. With comparison as the goal, similar procedures were used at the various stages of EFA with each data set. Extractional (principal axis factoring – PAF) and rotational (oblique) techniques were the same, as were criteria for determining the number of factors. Careful inspection of the loading matrices for the attractions and VIC's revealed clear similarities. Both groups generated the same number of factors, almost the same items loaded highly on the respective factors, and the same labels could reasonably be used to name the factors for both groups. This provided evidence to satisfy the conditions necessary for preliminary acceptance of the invariance of the two factorial structures (Tabachnick and Fidell, 1989, p. 642). Confirmation of factorial invariance was further addressed as a hypothesis in the development of a measurement model.

Once the comparability of attractions and VIC's factorial structures was established, the data were pooled and the 35 items of the scale were subjected to EFA, using SPSS 12, in which PAF was used to obtain the initial solution. Prior to performing PAF, the suitability of data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of 0.3 and above. The Kaiser-Meyer-Olkin value was 0.903, exceeding the recommended minimum value of 0.6 and the Bartlett's test of sphericity reached statistical significance (0.000), supporting the factorability of the correlation matrix (Field, 2000, p. 457).

PAF revealed the presence of six factors with eigenvalues of 1 or greater, explaining a total of 63 percent of the variance, with contributions from Factor 1 (29 percent),

Variable	No.	Percent
Gender		
Male	204	43.1
Female	269	56.9
For domestic: residential postcode		
Australian Capital Territory	5	1.8
New South Wales	56	19.9
Northern Territory	2	0.7
Queensland	28	10.0
South Australia	91	32.4
Tasmania	6	2.1
Victoria	71	25.3
Western Australia	22	7.8
For international: country of residence		
Asia/Pacific	22	11.6
Europe	132	69.5
North America	35	18.4
South America	1	0.5
Age		
18-29	105	22.2
30-39	80	16.9
40-49	72	15.2
50-59	108	22.8
60-69	86	18.1
70 +	23	4.9
Marital status		
Married	261	55.8
Not married	207	44.2
Highest level of education completed		
Some high school	43	9.3
High school	84	18.2
Some university/TAFE	92	20.0
Undergraduate	119	25.8
Postgraduate	123	26.7
Employment status		
Full time	217	45.9
Part time or casual	76	16.1
Not working	39	8.2
Student	24	5.1
Full time homemaker	14	3.0
Retired	103	21.8
Annual household income in Australian dollars		
Up to $20,000	33	8.0
$20,001-40,000	56	13.5
$40,001-60,000	84	20.3
$60,001-80,000	69	16.7
$80,001-100,000	52	12.6
$100,000 +	120	29.0
Method of travel to the region		
Personal car	219	46.5
Rented car	90	19.1

(*continued*)

Table II.
Descriptive statistics of tourist sample demographics ($n = 476$)

Variable	No.	Percent
Motor home/caravan	31	6.6
Bus	18	3.8
Air	56	11.9
Ferry	14	3.0
Organised tour	30	6.4
Train	10	2.1
Other	3	0.6
Where staying		
Friends/relatives	100	21.2
Caravan/camping	93	19.7
Hotel/motel/B&B	219	46.5
Backpacker/hostel	33	7.0
Other	26	5.5

Table II.

Factor 2 (13 percent), Factor 3 (7 percent), Factor 4 (7 percent), Factor 5 (5 percent), and Factor 6 (3 percent) of the variance, respectively. An inspection of the scree plot showed a break after the sixth factor. Using Cattell and Vogelmann's (1977) scree test, it was decided to retain the six factors for further investigation. To aid in the interpretation of these six factors, oblique rotation was performed. The rotated solution reveals the presence of simple structure (Tabachnick and Fidell, 2001, p. 623), with all six factors showing a number of strong loadings, and most variables loading substantially on only one factor. The presence of negative values for factors 4, 5, and 6 was noted, which was attributed to the oblique rotation's method of factor groupings on the rotation grid in its search for simple structure, and was consistent with the practical significance of factor interpretation (Hair *et al.*, 1998, p. 113). However, five variables displayed ambiguous loadings on two or more factors. Using 0.40 as a threshold value (Guadagnoli and Velicer, 1988; Hinkin, 1995) three of the five ambiguous variables were eliminated, and two others (item 7 "Tourism experiences have a central role in my lifestyle" and item 6 "I prefer tourism experiences to any other leisure activity") were retained as they had reasonably strong loadings on Factor 4, marginally sufficient loadings on Factor 1, and had content of high value to the study. This process of elimination reduced the total number of scale items from 35 to 32.

The final EFA (Table III) yielded a six factor solution with variables loading substantially on only one factor except for items 6 and 7 as noted above. The final six factor solution explained a total of 65.8 percent of the variance, with contributions from Factor 1 (29.4 percent), Factor 2 (13.7 percent), Factor 3 (7.4 percent), Factor 4 (7.1 percent), Factor 5 (5.0 percent), and Factor 6 (3.2 percent) of the variance, respectively. The factors were given the respective labels of centrality to lifestyle (six items), place dependence (four items), food and wine (four items), attraction (eight items), self expression (six items), and place identity (four items).

Reliability analysis was conducted on the six factors, yielding Cronbach α statistics in the acceptable range of 0.843 for centrality to lifestyle, 0.915 for place dependence, 0.800 for food and wine, 0.881 for attraction, 0.851 for self expression, and 0.866 for place identity. Effects of eliminating any of the items from the factors were examined, and indicated that all items contributed to high reliability, and that none of the items

Table III.
Exploratory factor analysis results of scale items ($n = 476$)

	Factor 1: centrality to lifestyle	Factor 2: place dependence	Factor 3: food and wine	Factor4: attraction	Factor 5: self expression	Factor 6: place identity	Mean	α if item deleted
12. Because of tourism experiences, I do not have time to spend participating in other leisure activities	*0.70*	0.11	0.01	0.09	−0.01	0.00	2.09	0.81
11. If I could not engage in tourism experiences, I am not sure what I would do	*0.68*	0.05	−0.01	0.03	−0.10	−0.06	2.28	0.80
10. If I stopped engaging in tourism experiences, I would probably lose touch with a lot of my friends	*0.63*	0.10	0.06	0.07	−0.05	−0.09	2.30	0.82
15. Other leisure activities do not interest me as much as tourism experiences	*0.54*	0.11	−0.03	−0.08	−0.19	−0.01	2.42	0.81
8. I find that a lot of my lifestyle is organised around tourism experiences	*0.50*	−0.12	0.01	−0.35	−0.08	−0.11	3.16	0.83
14. Others would probably say that I spend too much time engaging in tourism experiences	*0.49*	0.00	0.06	−0.11	−0.13	0.05	2.53	0.83
26. I get more satisfaction out of visiting the () region than any other place	−0.03	*0.93*	0.00	−0.03	−0.04	−0.01	2.48	0.87
27. Visiting the () region is more important to me than visiting any other place	0.04	*0.91*	0.01	−0.05	0.04	0.02	2.25	0.87
25. I enjoy visiting the () region more than any other place	0.12	*0.71*	0.02	0.04	0.02	−0.15	2.58	0.89
28. I would not substitute any other place for the type of experience I have in the () region	0.04	*0.62*	0.07	−0.04	−0.05	−0.12	2.38	0.93
35. Wine is an important feature of my tourism experiences	0.04	−0.04	*0.83*	0.04	0.01	0.02	3.56	0.71

(*continued*)

Table III.

	Factor 1: centrality to lifestyle	Factor 2: place dependence	Factor 3: food and wine	Factor4: attraction	Factor 5: self expression	Factor 6: place identity	Mean	α if item deleted
34. Food is an important feature of my tourism experiences	−0.02	−0.05	*0.75*	−0.06	−0.09	0.14	3.86	0.76
31. The distinctive wines of the () region is something that attracted me here	0.05	0.09	*0.67*	0.06	0.09	−0.06	3.39	0.74
30. The distinctive food of the () region is something that attracted me here	−0.03	0.15	*0.54*	−0.01	−0.01	−0.24	2.93	0.78
5. I really enjoy engaging in tourism experiences	−0.01	0.10	−0.04	*−0.83*	−0.01	0.06	4.24	0.86
1. Tourism experiences are important to me	−0.13	−0.04	0.00	*−0.79*	−0.07	−0.05	4.44	0.87
2. Tourism experiences interest me	−0.15	−0.06	0.00	*−0.78*	−0.08	−0.01	4.46	0.87
3. Engaging in tourism experiences is one of the most enjoyable things that I do	0.11	0.01	−0.03	*−0.73*	0.00	−0.03	4.10	0.86
4. Tourism experiences are pleasurable	0.00	0.12	0.02	*−0.62*	0.02	0.01	4.33	0.88
7. Tourism experiences have a central role in my lifestyle	0.42	−0.10	0.00	*−0.52*	−0.03	−0.05	3.39	0.86
6. I prefer tourism experiences to any other leisure activity	0.43	0.06	−0.05	*−0.47*	0.04	−0.07	3.21	0.87
9. I often discuss tourism experiences with my friends	0.28	−0.14	0.12	*−0.43*	−0.01	−0.08	3.94	0.88
19. Where I engage in tourism experiences gives a glimpse of the type of person I am	−0.12	−0.02	−0.04	0.03	*−0.98*	0.02	3.32	0.80
18. My choice of tourism experiences says a lot about who I am	−0.04	−0.04	0.04	0.03	*−0.85*	−0.02	3.37	0.81

(*continued*)

	Factor 1: centrality to lifestyle	Factor 2: place dependence	Factor 3: food and wine	Factor4: attraction	Factor 5: self expression	Factor 6: place identity	Mean	α if item deleted
20. You can tell a lot about a person by whether or not they engage in tourism experiences	0.11	0.00	0.02	−0.06	*−0.55*	−0.03	3.07	0.84
17. When I engage in tourism experiences, others see me the way I want them to see me	0.26	0.16	−0.05	0.02	*−0.51*	0.04	2.81	0.83
16. When I engage in tourism experiences, I can really be myself	0.18	0.08	−0.11	−0.10	*−0.51*	−0.07	3.17	0.83
33. My tourism experiences are a reflection of my lifestyle	0.09	−0.03	0.19	−0.09	*−0.46*	−0.04	3.58	0.85
21. The () region means a lot to me	0.04	−0.06	−0.06	0.01	−0.04	*−0.92*	3.35	0.80
22. I am very attached to the () region	0.05	0.05	−0.01	0.02	0.05	*−0.87*	3.11	0.79
23. I identify strongly with the () region	0.01	0.26	0.01	−0.02	−0.02	*−0.65*	2.97	0.81
29. The distinctive lifestyle of the () region is something that attracted me here	−0.18	0.15	0.21	−0.08	−0.10	*−0.44*	3.23	0.91
Overall factor alpha	0.84	0.92	0.80	0.88	0.85	0.87		
Overall factor mean	2.46	2.42	3.44	4.01	3.22	3.17		
Eigenvalue	9.4	4.4	2.4	2.3	1.6	1.0		
Percent of variance explained	29.4	13.7	7.4	7.1	5.0	3.2		
Cumulative percent of variance explained	29.4	43.1	50.5	57.6	62.6	65.8		

Notes: Response coding: 1 – strongly disagree to 5 – strongly agree

Table III.

seriously reduced the value of the coefficient α by being removed from the factor (Pett *et al.*, 2003, p. 195).

The hypothesised measurement model

Consistent with the study objective to develop and test a measurement model for the constructs to be measured by the instrument employed in this study, and based on the EFA findings, five a *priori* hypotheses were proposed. The hypotheses were drawn from a combination of theoretical, practical, and methodological considerations as noted for each hypothesis below.

The CFA model proposed for the first hypothesis that:

H1. the relationship between involvement and place attachment in a tourism setting could be explained by six factors.

The scale items were largely adapted from previous studies in the involvement and place attachment literature, which suggests that relationships can be established between the dimensions of the two latent constructs in a leisure and recreation context. The present study sought support for those relationships in a tourism context.

The second hypothesis was that:

H2. Each item would have a nonzero loading on the factor it was designed to measure, and zero loadings on all other factors.

This hypothesis was necessary to test the methodological principle that a model satisfying this hypothesis, along with *H3*, is considered to be the ideal measuring instrument so that a reliable and valid instrument would be expected to fulfill these hypotheses.

The third hypothesis was that:

H3. The measurement error terms would be uncorrelated.

Like *H2* this hypothesis represents an aspect of an ideal measuring instrument. Although knowledge developed from previous studies suggested an overlapping nature of some of the involvement and place attachment items in a leisure and recreation context, it was still necessary to test to what extent this may hold true in a tourism context.

The fourth hypothesis was that:

H4. The six factors would be correlated.

In CFA, correlated factors are usually expected and almost always provide a better fit to the data (Thompson, 2004, p. 118).

The final hypothesis was that:

H5. The measurement models for the attractions and VIC's samples would be the same.

This hypothesis sought to answer the question: do the items comprising the measurement instrument operate equivalently across the two populations (Byrne, 2001, p. 173)? This step was taken to confirm the validity of results generated from EFA by showing the models for the two data sets to be invariant. Knowledge of factorial structure may assist in interpreting results in a destination marketing context,

as understanding is gained about the degree to which attitudes of tourists sampled from different places compare. The same measurement model for both populations would be testimony to the accuracy of the interpretation of homogeneity of tourism experience attitudes towards involvement and place attachment between attractions and VIC's respondents (Loehlin, 2004, p. 147).

The hypothesised measurement model is shown in Figure 1, where ovals represent latent variables, rectangles represent observed variables, and circles represent measurement error associated with observed variables. Absence of a line connecting variables implies no hypothesised direct effect. A six factor measurement model of

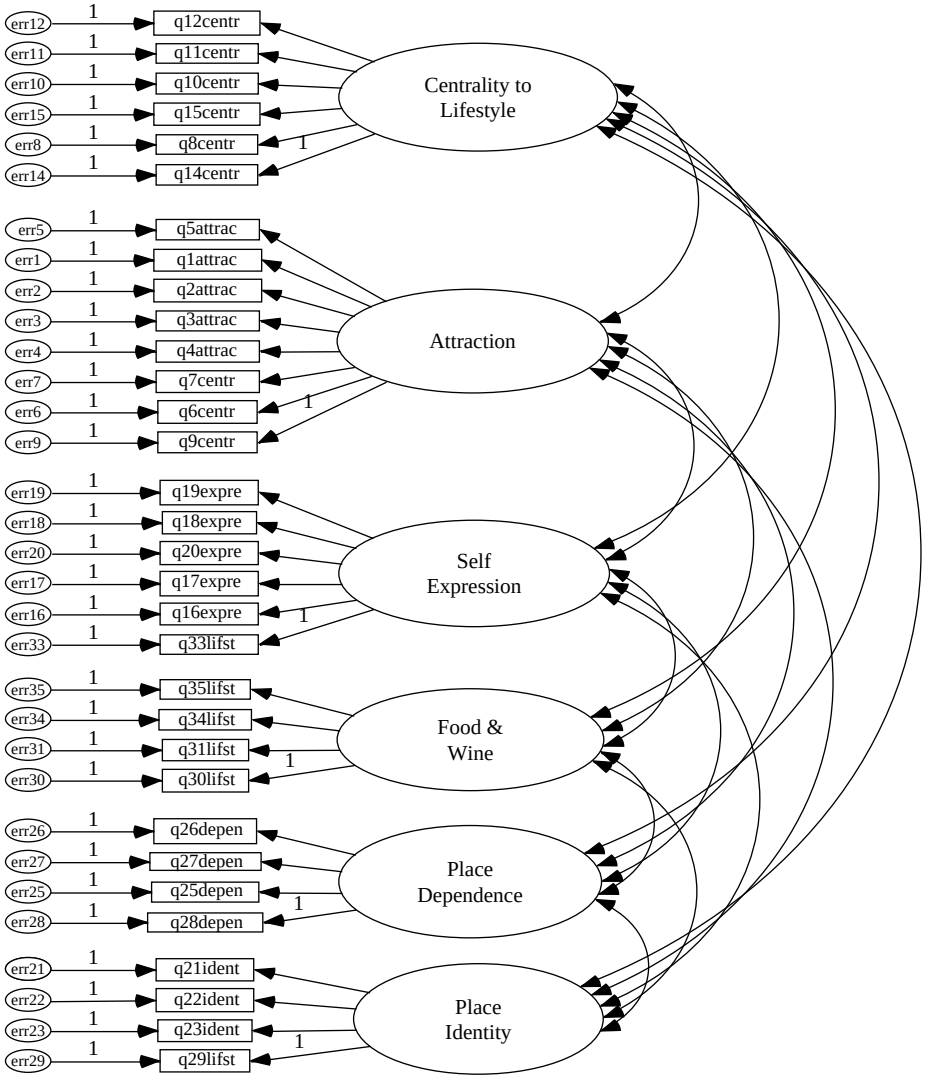

Figure 1.
Hypothesised measurement model

centrality to lifestyle (six items), attraction (eight items), self expression (six items), food and wine (four items), place dependence (four items), and place identity (four items) was hypothesised.

Model estimation

A CFA was performed using AMOS 5 on the 32 scale items of involvement and place attachment. Maximum likelihood estimation was used to estimate all models. In assessing models we followed Byrne (2001, pp. 79-88) and did not rely on the overall χ^2. Rather, we also employed the comparative fit index (CFI) and root mean square error of approximation (RMSEA) in assessing model fit. The independence model that tests the hypothesis that all variables are uncorrelated was easily rejectable, $\chi^2 = 9{,}512$ ($n = 476$, df $= 496$, $p < 0.01$). The hypothesised model was tested next and limited support was found for the hypothesised model, $\chi^2 = 1{,}844$ ($n = 476$, df $= 449$, $p < 0.01$), CFI $= 0.845$; RMSEA $= 0.081$. A χ^2 difference test indicated a significant improvement in fit between the independence model and the hypothesised model.

Given these findings of inadequate fit, *post hoc* model modifications were made in an attempt to develop a better fitting measurement model. The statistical significance of parameter estimates for the measurement model was examined through the critical ratio (c.r.) test statistic. Using a threshold range of ± 1.96, all c.r.'s for regression weights, covariances and variances for the measurement model fell within the acceptable range. In an effort to identify further areas of misfit, the standardised residuals and modification indices (MI) were examined. An examination of the standardised residuals identified three possible items that were candidates for either respecification or deletion. These were lifestyle item 30 "The distinctive food of the region is something that attracted me here," self expression item 16 "When I engage in tourism experiences I can really be myself," and centrality to lifestyle item 6 "I prefer tourism experiences to any other leisure activity," all of which displayed multiple covariance discrepancies well exceeding a threshold value of ± 2.58, which is considered to be large (Byrne, 2001, p. 89). The MI were examined to determine what, if any, action should be taken on items 30, 16, and 6. Examination of the regression weights suggested that substantial parameter improvements could be made by moving item 30 from the food and wine factor to either place identity (MI $= 57.11$, par change $= 0.584$) or place dependence (MI $= 47.83$, par change $= 0.414$), however the lack of clarity about which factor should contain the item, combined with little theoretical reason for making the change suggested no action. Similarly, no action was taken for item 16, for which parameter improvements could be made by moving the item from self expression to centrality to lifestyle, however little theoretical reason existed to change, and parameter improvements would be marginal (MI $= 16.42$, par change $= 0.253$). Item 6 was moved from the attraction factor to the centrality to lifestyle factor based on parameter improvements (MI $= 36.62$, par change $= 0.359$), as well as theoretical grounds that the item is a well-tested measure for centrality to lifestyle in the literature, and was originally intended to measure centrality to lifestyle in the survey instrument. Additionally, further examination of the regression weights showed that parameter improvements could be made by moving centrality item 7 "Tourism experiences have a central role in my lifestyle" from attraction to centrality to lifestyle (MI $= 47.16$, par change $= 0.437$). The item was moved based on the

theoretical grounds that the item is also a well-tested measure for centrality to lifestyle in the literature, and was also originally intended to measure centrality to lifestyle in the survey instrument.

Next, attention was turned to the MI's representing error covariances. Model fit improvements were indicated for allowing a number of error terms to correlate, and, based on maximum contribution to fit and no objections on theoretical or practical grounds, nine correlated error terms were added to improve the model fit. Errors between the following item pairs were allowed to correlate freely: 10/11, 10/12, 11/12, 12/15, 14/15, 16/17, 18/19, 29/30, and 31/34.

The final measurement model, including coefficients in standardised form, is shown in Figure 2.

All of the measures in the model possessed acceptable psychometric properties. In summary, the difference in the χ^2 was 553.581, the difference in the degrees of freedom (df) was 9, and $p < 0.01$. Therefore, model respecification resulted in an improved model fit as demonstrated by Table IV.

Indicators of reliability (i.e. internal consistency) and variance-extracted measures were also used to assess the adequacy of the measurement model. Each construct was subjected to reliability computations which showed that all factors exceeded the recommended level of 0.70 (Hair *et al.*, 1998, p. 624). Each construct was also subjected to variance-extracted computations which showed that all but two of the factors exceeded the recommended level of 50 percent. This indicates that, for the two factors of centrality to lifestyle and self expression, less than half of the variance for the observed variables was accounted for by the construct. However, even though the variance extracted values of two of the factors were somewhat lower than the threshold, the observed variables can be regarded as sufficient in terms of how the overall measurement model was specified (Hair *et al.*, 1998, p. 636). A summary of reliabilities and variances extracted for the measurement model is provided in Table V.

Confirmation of invariance

The multiple group analysis function in AMOS 5 was used to test for group-invariant factor patterns for the two samples of attractions and VIC's data. Using the final measurement model, the path diagram specified for attractions and VIC's was the same, and cross-group constraints were fixed for the two-group factor analysis model (Arbuckle, 2003, p. 57). Five nested models (Bollen, 1989, p. 291) were compared using a series of increasingly restrictive parameter constraints:

(1) unconstrained;

(2) measurement weights;

(3) measurement intercepts;

(4) structural covariances; and

(5) measurement residuals.

In which each model contained all the constraints of its predecessor. Table VI shows the likelihood ratio χ^2 statistic for each fitted model. As for the model fitted to the complete set of data, in all cases there are significant departures from the fitted model. However, the unconstrained model has an RMSEA value of 0.049 with a 90 percent confidence interval of (0.046, 0.052) that indicates a good fit for this model. On the other

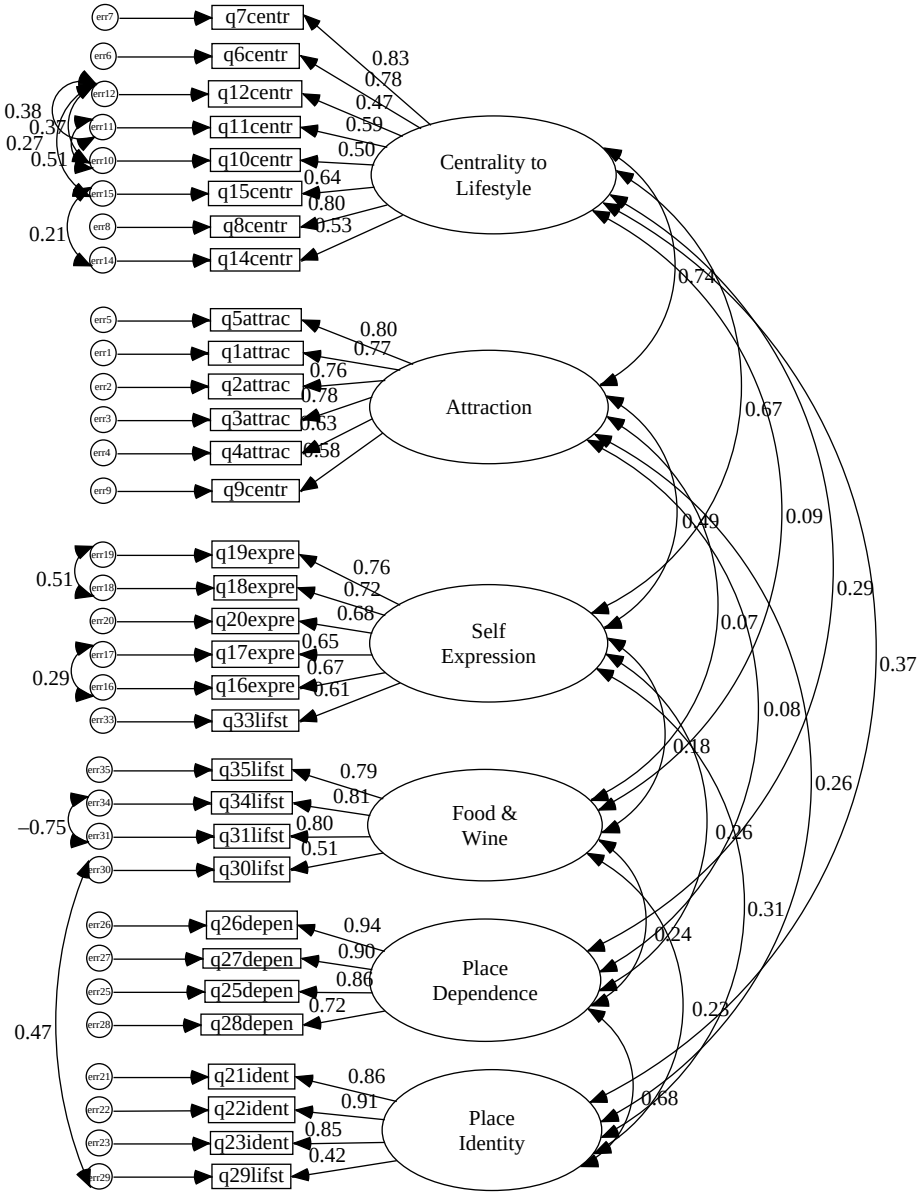

Figure 2.
Final measurement model

Model	χ^2	df	χ^2/df	*p*-Value	CFI	RMSEA	90 percent CI RMSEA
Initial CFA	1,844.611	449	4.108	0.000	0.845	0.081	(0.077, 0.085)
Final CFA	1,291.030	440	2.934	0.000	0.906	0.064	(0.060, 0.068)

Table IV.
Summary of model fit statistics

hand the CFI is 0.892 which indicates that the fit may only be moderately good. The maintenance of a relatively stable χ^2/df ratio through all fitted models suggests that the increase in the χ^2 from one model to the next is never very different to the change in the df and so it is unlikely that there will be significant differences between them.

Differences between χ^2s from the table model fit summary are presented in the nested models comparisons (Table VII) and are used to formally compare the models. Each χ^2 tests whether the removal of the constraint would result in an improved fit, assuming all previous constraints are correct. As each of the first three models in Table VII is in turn nonsignificant ($p > 0.05$) there is no evidence that the measurement weights, measurement intercepts and structural covariances differ between the attractions and VIC's groups. However, the measurement residuals model is significant and so the constraint that the variance of the measurement residuals is the same is not tenable.

Based on the overall results of the multiple group analysis, the final measurement model shown in Figure 2 differs between attractions and VIC's only in the variances of the residuals.

Factor	Reliability	Variance extracted
Attraction	0.87	0.53
Centrality to lifestyle	0.85	0.43
Self expression	0.84	0.47
Food and wine	0.82	0.55
Place dependence	0.92	0.74
Place identity	0.86	0.62

Table V.
Summary of reliabilities and variances extracted

Model	NPAR	χ^2	df	p	χ^2/df
Unconstrained	240	1,873.004	880	0.000	2.128
Measurement weights	214	1,910.887	906	0.000	2.109
Measurement intercepts	182	1,952.730	938	0.000	2.082
Structural covariances	161	1,972.828	959	0.000	2.057
Measurement residuals	120	2,040.914	1,000	0.000	2.041
Saturated model	1,120	0.000	0		
Independence model	128	10,180.515	992	0.000	10.263

Table VI.
Model fit summary – χ^2

Model	df	χ^2	p
Measurement weights	26	37.883	0.062
Measurement intercepts	32	41.843	0.114
Structural covariances	21	20.098	0.515
Measurement residuals	41	68.086	0.005

Table VII.
Nested models comparisons

Discussion

The objective of the study was to develop and test a measurement model for the constructs hypothesised to be measured by the instrument employed in this study. Goodness-of-fit indices were chosen on the basis of their common application in the literature (Thompson, 2004, p. 128), and their variant approaches to fit. It is considered necessary that fit indices similar to the CFI exceed 0.90 before a model can be viewed as consistent with the observed data (Hoyle, 1995, p. 7). Similarly, a RMSEA value of 0.08 or less would indicate a reasonable error of approximation (Arbuckle and Wothke, 1999, p. 403), and minimum discrepancy (χ^2/df) ratio of 3-1 is indicative of an acceptable fit between the hypothetical model and the sample data (Arbuckle and Wothke, 1999, p. 399). The fit indices of the final measurement model were within acceptable ranges of measurement, indicating an overall acceptable fit of the measurement model. Five elements of the model were hypothesised.

H1 was supported by the data. Involvement and place attachment in a tourism setting could be explained by six factors. This hypothesis was supported by the data. The hypothesised six-factor model was identified, however with some re-specification of the item loadings on the centrality to lifestyle and attraction factors. Fit indices showed that items 6 and 7, both of which were indicated by EFA results to load on the attraction factor, were better suited to load on the centrality to lifestyle factor. This was supported on theoretical grounds from the literature, as both items were originally intended to measure centrality to lifestyle. One new factor to emerge from the EFA was food and wine. This is consistent with the expectation that tourists would be attracted by the regions' distinctive food and wine, and would consider food and wine to be important features of their tourism experiences in South Australia. The state promotes its food and wine as major components of tourism experiences (SATC, 2002), and two of the regions surveyed, Barossa and McLaren Vale, are particularly well-known wine regions in Australia.

H2 was supported by the data. Each item would have a nonzero loading on the factor it was designed to measure, and zero loadings on all other factors. A model satisfying this hypothesis, along with *H3* is considered to be the ideal measuring instrument so that a reliable and valid instrument would be expected to fulfill these hypotheses. *H2* was supported by the data as all items loaded on only a single factor.

H3 was supported by the data. The measurement error terms would be uncorrelated. This hypothesis was not fully supported by the data. Nine correlated error terms were added to improve the model fit, seven of which were intra-factor correlations that could be explained by a high degree of overlap in item content. We believe this to be true of the survey instrument, as involvement scales may be characterised by groupings of items that take a slightly different approach to the same question (Gursoy and Gavcar, 2003; Havitz and Mannell, 2005) and this was noted by some respondents who found the style of questions occasionally repetitive. Similar overlap of items has been found in place attachment studies (Williams and Vaske, 2003). An example of this is between item 18 "My choice of tourism experiences says a lot about who I am" and item 19 "Where I engage in tourism experiences gives a glimpse of the type of person I am," both of which are intended to measure self expression. Given the similarity of the questions, it is intuitive on practical and theoretical grounds to allow the error terms for two such items to correlate freely in order to give a more realistic picture of the contribution to variance explained by the respective items and their error terms. One intra-factor correlation

between items 31 and 34 yielded a negative value, indicating the possibility that responses for the two items may be mutually exclusive. As item 31 is about wine and item 34 is about food, this may suggest a separation in respondents' attitudes towards combining food and wine in the same tourism experience in some regions. Inter-factor correlation between error terms for items 29 and 30 was allowed on the rationale that both questions enquire about an aspect (food or lifestyle) of a region that attracted respondents there. This decision was based on allowing for the connection that respondents may make between the food and the lifestyle of a region, especially in a place like South Australia, where there is a determined marketing effort to establish such connections in tourists' minds.

H4 was supported by the data. The six factors would be correlated. This hypothesis was supported by the data. Although inter-factor correlation was not a focus of this study, it was necessary to allow all factors to correlate to ensure that a priori restraints would not restrict the measurement model's ability to indicate which items loaded on which factors as well as relationships between error terms.

H5 was supported by the data. The measurement models for the attractions and VIC's samples would be the same. This hypothesis was supported by the data. As an exploratory step, the data were tested using multiple group analysis to determine the extent to which the factorial structures between the two data sets in the model were invariant. Multiple group analysis offered support for the invariance of the factorial structures of the attractions and VIC's data. This finding suggests that results generated from analysis of the pooled two data sets may be regarded as equivalent, and that tourists attending attractions and VIC's display similarities in their attitudes towards tourism experiences when measured by involvement and place attachment. Such knowledge may assist in interpreting results in a destination marketing context, as understanding is gained about the degree to which attitudes of tourists sampled from different places compare. Destination managers may make decisions regarding resource allocation and marketing strategies and tactics based on a more thorough understanding of the who, where and how of reaching their target markets.

In a previous study (Gross and Brown, 2005) using a single sample of VIC's visitors in South Australia ($n = 189$), a measurement scale of the four involvement dimensions of attraction, self expression, centrality, and food and wine, and a single dimension of place attachment was developed. The two dimensions of place attachment that are commonly generated for data samples in the leisure and recreation literature did not appear in the sample of VIC's visitors. The present study combined a slightly increased VIC's sample ($n = 197$) with a sample of tourists attending attractions ($n = 279$) in South Australia for comparison to determine the extent to which the nature of the sampling location may have a bearing on the factorial structure of the data. EFA in the present study yielded the two place attachment dimensions of place identity and place dependence for both attractions and VIC's. As the combination of extractional and rotational techniques used for the previous study EFA were PCA/varimax, and those used for the present study were PAF/oblique, this suggests that derivation of the place identity and place dependence dimensions may be influenced by the choice of techniques used.

Conclusion and implications

Results from this study suggest that it is possible to identify and measure six factors underlying involvement and place attachment, indicating that their use in the leisure research environment can be extended to a tourism research environment. Owing to the nascent stage of combined leisure and tourism involvement and place attachment literature, opportunities for comparison of parameter values with similar studies are limited. Studies that have used structural modeling tend to report results from full model analysis, and do not report measurement model results separately. Two of the studies from which the present study drew precedence (Table VIII) do however provide a source of comparison of some fit indices for reported measurement models:

Comparison of the results of these two previous studies suggests that fit indices found in the present study are consistent with those found in the emerging literature.

It is important to note that once respecification of an originally hypothesised model is undertaken, the process of post hoc model fitting ceases to be purely confirmatory and assumes the exploratory nature of model generation, the most common type of model analysis (Byrne, 2001, p. 8). Final models resulting from specification searches must be cross-validated before any real validity can be claimed (Bentler, 1980). We were guided in our specification search by the need to respect the theoretical integrity of the measurement model (MacCallum, 1986), however the measurement model needs to be further tested with other data sets.

Having established that six factors underlying involvement and place attachment can be measured, and that the factorial structures for the attractions and VIC's data are invariant, further research will use structural equation modelling (SEM) to investigate alternative structure models for the relationships among the factors of the combined samples. The six factors will form the starting point for SEM model generation, extending the measurement model that has been developed in the present study. The present study findings suggest that a viable theoretical, practical, and methodological basis has been established to proceed to a full structural equation model that will examine the predictive effects among the six factors, specifically between the latent constructs of involvement and place attachment. Further research will seek to determine the extent to which the nature of the relationships between involvement and place attachment are consistent in a tourism context with those found by researchers who have studied those relationships in a leisure and recreation context. The type of knowledge generated by SEM analysis may have implications for destination marketers for whom it is critical to be able to distinguish those attitudes that are substitutable from those that are perceived to be unique to a particular place. A better understanding of involvement dimensions and the extent to which tourism experiences are rooted in place may be of invaluable assistance in the marketing of tourism destinations.

Table VIII.
Comparison of measurement model fit statistics with similar studies

Measurement model	χ^2	df	*p*-Value	CFI	RMSEA	Note
Kyle *et al.* (2004c)	2,780.15	504	0.000	0.92	0.057	
Hwang *et al.* (2005)	1,654.89	165	0.000	0.95	0.060	Involvement construct
Hwang *et al.* (2005)	775.54	76	0.000	0.97	0.060	Place attachment construct
Present study	1,291.03	440	0.000	0.906	0.064	

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See Appendix figure on following page.

Appendix. Tourism regions of South Australia

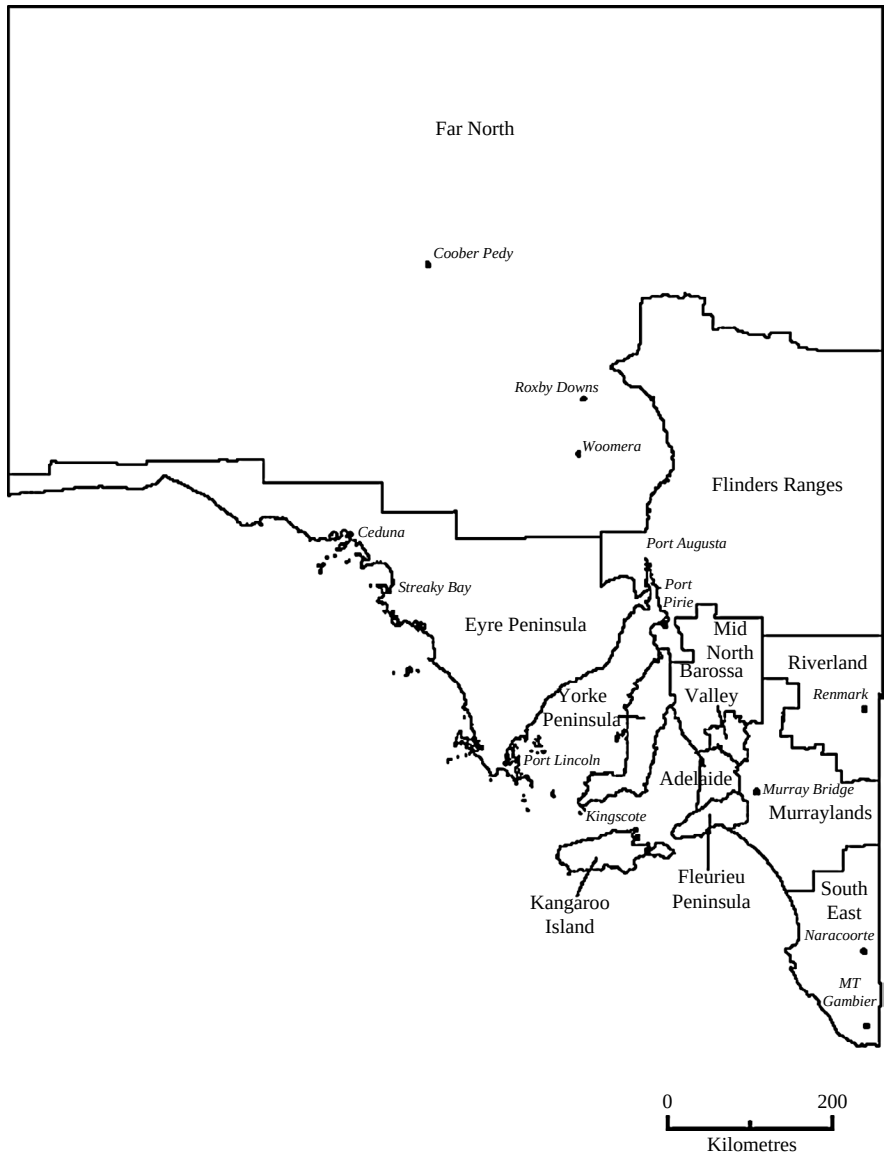

Figure A1.

Source: Bureau of Tourism Research (1999), Australia

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