Journal of Environmental Psychology 29 (2009) 95–100

Contents lists available at ScienceDirect

Journal of Environmental Psychology

journal homepage: www.elsevier.com/locate/jep

Stability of self-reported favourite places and place attachment over a 10-month period

Kalevi M. Korpela [a,*], Matti Ylén [a], Liisa Tyrväinen [b], Harri Silvennoinen [c]

[a] Department of Psychology, University of Tampere, FIN-33014 Tampere, Finland
[b] Finnish Forest Research Institute, Helsinki Research Unit, Finland
[c] University of Joensuu, Faculty of Forestry, Finland

ARTICLE INFO

Article history:
Available online 4 June 2008

Keywords:
Favourite places
Temporal stability
Place attachment
Self-regulation

ABSTRACT

We investigated the reliability and stability of favourite place selections and evaluations of place attachment over a 10-month period. A simple random sample of 1273 respondents representative of the population of the two largest cities in Finland completed a mailed questionnaire. Reliability data was obtained in a second questionnaire ($N = 427$). We obtained five main favourite place types which were extensively managed natural settings (mainly urban woodlands), urban green spaces (mostly parks), waterside environments, exercise and activity/hobby areas, and indoor and outdoor urban areas. Sixty-four percent of the respondents in the second survey selected the same main favourite place type as 10 months earlier, which is more than what might be expected by chance. Extensively managed natural settings (mainly urban woodlands) and waterside environments were reselected most often. Indoor and outdoor urban favourite places had the lowest stability. We found evidence of people being more consistent in their attachment to natural favourite places than to urban favourite places. The findings lend further credence and credibility to earlier results concerning self-regulation and restorative experiences in favourite places.

1. Introduction

In earlier studies, favourite places have been described as a window into the use of environments for self- and emotion regulation (Korpela, Hartig, Kaiser, & Fuhrer, 2001). It has been speculated that people should be attached to their favourite places because this attachment together with restorative experiences provides a basis for environmental self-regulation and ultimately for place identity (Korpela, 1989). So far, longitudinal studies of this claim are lacking. Cross-sectional self-report studies have shown that favourite neighbourhood places provide stress-alleviating experiences and that people visit these places for regulation of their self-experience and feelings (Evans, Owens, & Marsh, 2005; Gross & Lane, 2007; Jorgensen, Hitchmough, & Dunnett, 2007; Korpela, 1992; Newell, 1997; Regan & Horn, 2005; Smaldone, Harris, & Sanyal, 2005; see also Knez, 2006). More specifically, ordinary natural settings, such as parks, beaches or forests have constituted the largest category among adults' favourite places (Korpela & Hartig, 1996; Korpela et al., 2001). Restorative outcomes, i.e., relaxation, alleviation of negative feelings, increase in positive feelings, forgetting worries, clearing random thoughts, recovering attentional focus, and facing matters on one's mind have characterized visits to natural favourite places in particular. The evidence also suggests that adults with high negative mood in comparison to low negative mood scorers are more likely to choose natural favourite places than other favourite places (Korpela, 2003). Moreover, adults with a certain number of health complaints in comparison to few complaint scorers, are more likely to choose natural favourite places in the vicinity than other favourite places such as sports, commercial, or community service settings (Korpela & Ylén, 2007).

Currently there are no longitudinal studies of the temporal stability of the favourite place selections (cf. Scopelliti & Giuliani, 2004). This is a clear gap within this research area. If selecting a favourite place is a random and momentary, whimsical choice affected by the measurement methodology itself (survey or interviews) or the demand characteristics of the experiment, the above-mentioned findings and the hypothesis of environmental self-regulation are less important and less meaningful than if the selections of favourite places show stability over time.

In this study, our aim was to obtain estimates about the reliability and stability of favourite place selections and evaluations of place attachment over a reasonably long time interval, 10 months. First, we wanted to investigate stability of favourite place

* Corresponding author. Tel.: +358 3 35516579; fax: +358 3 35517345.
E-mail address: kalevi.korpela@uta.fi (K.M. Korpela).

0272-4944/$ – see front matter © 2008 Elsevier Ltd. All rights reserved.
doi:10.1016/j.jenvp.2008.05.008

selections both with regard to specific places and with regard to place types, and also with regard to gender and age. Second, we wanted to check whether people indeed are attached to their favourite places; we also wanted to investigate the stability of attachment among those who stay with their first choice and among those who change their favourite place in a 10-month period. The concept of environmental self-regulation suggests that places are used for facilitating or carrying out emotion regulation. The positive outcomes of this regulation may constitute an affective bond toward a place which may become a kernel for place identity (Korpela, 1989). Accordingly, our definition of place attachment refers to a positive emotional tie or an affective bond between an individual and a place and a tendency to maintain closeness to that place (suggesting an enduring rather than an incidental bond) (Giuliani, 2004; Hidalgo & Hernández, 2001). However, the research on restorative outcomes and experiences indicates that the positive outcomes of emotion regulation are not tied only to a specific place but also to certain types of places. Restoration is more likely in natural settings than urban settings as evidenced in field experiments (Hartig, Evans, Jamner, Davis, & Gärling, 2003), laboratory conditions (Ulrich et al., 1991), and everyday favourite places (Korpela, Ylén, Tyrväinen, & Silvennoinen, 2008). Thus, our definition applies also to types of places such as green space vs. a waterside area vs. an urban setting (Feldman, 1990) but we are not investigating broader geographical levels to which place attachment has been related (cf. Kaltenborn, 1997). Because we aim to use self-rate measures of place attachment requiring an individual to assess or rate their attachment verbally (and numerically), we acknowledge that cognitive and behavioral intention processes also may be activated in this assessment (Jorgensen & Stedman, 2001; Kyle, Mowen, & Tarrant, 2004). However, we are not aiming to study the social or physical aspects (Giuliani, 2004; Hammitt, Backlund, & Bixler, 2006; Hidalgo & Hernández, 2001), the level of consciousness (Giuliani, 2004; Manzo, 2003), the functional, or the identity aspects (Brooks, Wallace, & Williams, 2006; Chatterjee, 2005; Davenport & Anderson, 2005; Hammitt, Backlund, & Bixler, 2004; Kyle, Bricker, Graefe, & Wickham, 2004; Williams, Patterson, Roggenbuck, & Watson, 1992) that constitute place attachment. As the main aim of the study is to evaluate the validity of favourite place as a key concept in the model of environmental self-regulation, the above-mentioned determinants, consequences, predecessors, and co-existing processes of place attachment are not the focus of the current study.

2. Method

A simple random sample of 3000 (0.5% of the study population) Finnish-speaking inhabitants aged between 15 and 75 yr of two major cities in Finland (Helsinki and Tampere) was obtained from the Population Register Centre. Helsinki, the capital of Finland, has approximately 564,000 inhabitants and Tampere 206,000 inhabitants. The share of green areas in Helsinki is 29% and in Tampere 38% of the total administrative land area of the city. Helsinki and Tampere are among the 5 European cities (from 26 cities investigated) where the inhabitants have large amounts of green area, at least 100 m^2 per capita, at their disposal (Urban Ecosystem Europe, 2006). By way of comparison, Tokyo is estimated to have 6 m^2 of green space per capita, London 27 m^2, and Wellington, New Zealand, 200 m^2 (CabeSpace, 2004).

After two rounds of written reminders 1273 (37.4% male, 62.6% female) out of 2989 respondents with a known address returned our postal questionnaire (a response rate of 42.6%). The survey was conducted in October 2005. The 12-page questionnaire included several main themes: opinions about the current residential area and nature, the use and experiences of natural areas, sense of security and community, well-being and health, and background information.

Statistical χ^2 comparisons to the population showed that the sample was representative of the age cohorts with the exception that two age cohorts in Tampere, 62-yr-olds (2.8% in the sample vs. 1.0% in the population) and 67-yr-olds (3.5% in the sample vs. 1.1% in the population) were somewhat overrepresented. Men from Helsinki and Tampere were somewhat underrepresented (39.7% in the sample vs. 46.6% in the population in Helsinki; 41.0% vs. 48.7% in Tampere). As a whole, the sample represents the population well. After 10 months (in August 2006), 710 volunteers of the first sample were mailed another, shorter questionnaire to obtain reliability data for our main measurements. Four hundred and twenty-seven (32.1% male, 67.9% female) respondents returned the questionnaire (response rate 60.1%). Men from Helsinki (30.3% in the sample vs. 46.6% in the population) and Tampere (35.7% in the sample vs. 48.7% in the population) were underrepresented. For the comparisons between the sample and population, we had to categorize age cohorts into 5-yr categories (e.g., those born between 1941 and 1945) and use a combined data of both cities (Helsinki + Tampere). The category of 56–60-yr-olds was overrepresented (13.3% in the sample vs. 9.4% in the population).

2.1. Place categories

In the middle section of the questionnaire, the respondents were asked to rate 16 urban and green/natural place and area categories with regard to their personal significance (5-point Likert scale; 1 = not at all important, 5 = very important). The range of place categories was based on the classification of green areas developed for mapping the social values of green areas in Helsinki and can also be applied to the city of Tampere (Tyrväinen, Mäkinen, & Schipperijn, 2007). We acknowledge that the place categories are biased toward natural settings in terms of the number of items. However, indoor and outdoor urban areas include all possible urban places. After rating the personal significance, the participants were requested to select one particular place category which was their favourite place or where their favourite place was located and briefly describe that place in an open-ended answer.

Attachment to a favourite place (cf. Hammitt et al., 2004; Kaltenborn, 1997; Kyle, Bricker, et al., 2004; McAndrew, 1998; Williams et al., 1992) was measured with two items (“I would long for this place if I moved elsewhere” and “even continuously visiting here does not feel boring”) on a Likert scale ranging from 1 to 7 (1 = totally disagree, 7 = totally agree).

3. Results

3.1. The stability of self-reported favourite places

In the first survey, 56 respondents (4.4%) did not mention a favourite place. In the second survey, five respondents (1.2%) did not mention a favourite place. Forty-four percent of the respondents of the second questionnaire selected the same favourite place as 10 months earlier, which is more than what might be expected by chance (Cohen’s $\kappa = .36$; $N = 413$, $p = .000$, *McNemar–Bowker* $= 65.9$, $p = .62$; Table 1). Allotment gardens were reselected most frequently (89%) after 10 months had elapsed, followed by beaches and harbour areas (63%), decorative flowerbeds and glorious flowers (56%), and small-scale natural state areas (51%). Small-scale wooded areas (15%) and indoor areas within the city centre (17%) had the lowest percentage of reselection after 10 months.

The negative change percentages indicate (see Table 1) that the respondents have most often given up urban favourite places. Thus, out of 12 persons who selected an indoor urban favourite place in the first survey, only 2 stayed with that choice, and 3 respondents selected outdoor city areas in the second survey. Others selected natural places such as an allotment garden (1 person), park

Table 1
Stability of self-reported favourite places over the period of 10 months between the first and second survey

Favourite place	Second survey																			
	1	2	3	4	5	7	8	9	10	11	12	13	14	15	16	2005 *f*	2006 *f*	Δ	Stability%	Change%
First survey																				
1. Indoor areas within the city centre	2	0	0	1	1	3	0	1	0	0	0	0	1	2	1	12	8	−4	17	−33
2. Playgrounds	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	3	8	5	67	167
3. Recreation trails, sports grounds	0	0	3	1	2	0	0	3	1	0	0	2	0	0	1	13	16	3	23	23
4. Allotment gardens	0	0	0	8	1	0	0	0	0	0	0	0	0	0	0	9	18	9	89	100
5. Built parks (grass, passages, plants)	0	0	1	2	20	2	1	2	0	3	0	3	3	3	3	43	42	−1	47	−2
6. Dog parks	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2		−2		
7. Street areas within the city centre	2	0	0	0	5	3	0	0	1	0	1	2	0	0	1	15	11	−4	20	−27
8. Scenery fields and meadows	1	0	1	0	0	0	7	3	1	2	0	1	0	0	3	19	18	−1	37	−5
9. Large forest areas	1	0	4	1	1	0	5	28	5	3	0	1	1	1	9	60	62	2	47	3
10. Small-scale wooded areas	0	1	0	1	1	0	1	3	4	2	0	6	1	0	7	27	23	−4	15	−15
11. Large green lots	0	0	2	0	1	0	1	1	2	5	0	2	4	1	1	20	21	1	25	5
12. Traffic green areas (windbreaks, green lanes, avenues of trees)	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	2	0	0	0
13. Beaches and harbour areas	1	1	2	0	2	2	0	3	1	4	0	41	2	0	6	65	70	5	63	8
14. Green areas within housing blocks (small wooded areas in housing precincts, vest-pocket parks between the lots)	0	2	0	1	3	1	1	2	0	0	0	2	4	0	1	17	19	2	24	12
15. Decorative flowerbeds and glorious flowers	0	0	1	0	0	0	1	0	1	0	0	1	0	5	0	9	13	4	56	44
16. Small-scale natural state areas (brook valleys, wetlands, bushes, rocks, leas)	1	2	2	3	4	0	1	13	7	2	0	9	3	1	49	97	82	−15	51	−15
Total	8	8	16	18	42	11	18	62	23	21	2	70	19	13	82	413	413			
%	25	25	19	44	48	27	39	45	17	24	0	59	21	38	60					

Diagonal sum = 181; Stability% = 44%.
The stability% was calculated by dividing the diagonal frequency of a favourite place by its frequency in the first survey. This percentage describes the stability of a place over a period of 10 months. Change% indicates the change in the frequency from the first to the second survey.

(1 person), large forest area (1 person), green areas within housing blocks (1 person), decorative flowerbeds (2 persons), and a small-scale natural state area (1 person) in the second survey. On the other hand, allotment gardens doubled their frequency of mention from 9 to 18 in the second survey. Eight respondents adhered to their first choice and the rest had chosen, e.g., indoor urban areas (1 person), parks (2 persons) or small-scale natural state areas (3 persons) in the first survey.

3.2. Main types of important and favourite places in the residential area

The ratings of the importance of the place categories and the subsequent favourite place selection ("select one of those 16 places/areas which is your favourite or where your favourite place is located") were consistent: 87.6% of the respondents to the first survey regarded the area where the favourite place was situated as quite or very important (values 5 and 4) and 10% as moderately important (value 3). In the second survey, 94.2% regarded the area where the favourite place was situated as quite or very important (values 5 and 4) (Table 2). Thus, to assist further statistical analyses, we were able to categorize favourite places further on the basis of the importance ratings.

We performed factor analysis (principal axis factoring, oblique promax rotation) using the importance ratings of the 16 place/area category items in the first survey and obtained 5 main favourite place types (Table 3). The factorial solutions of the two surveys are quite similar. Beaches and harbour areas had a reasonably high proportion of unique variance to include it as a category of its own. We also included dog parks in the activity area category although psychometrically it is not a reliable component of the factor. However, as our main aim was only to categorize main favourite place types we included all places in our subsequent analyses.

The factor correlations between the different types of natural favourite places are clearly higher than those between urban and natural favourite place types. The highest correlation in both surveys is between extensively managed natural settings and built-up green spaces.

3.3. The stability of main types of favourite places

Sixty-four percent of the respondents to the second survey selected the same main favourite place type as 10 months earlier, which is more than what might be expected by chance (Cohen's $\kappa = .48$; $N = 411$, $p = .000$, *McNemar–Bowker* = 12.3, $p = .26$; Table 4). The percentage was 67% for women (Cohen's $\kappa = .51$; $N = 282$, $p = .000$) and 57% for men (Cohen's $\kappa = .40$; $N = 131$, $p = .000$). The κ indices were significant for all age groups (15–25 yr: Cohen's $\kappa = .49$, $N = 49$, $p = .000$; 26–35 yr: Cohen's $\kappa = .38$, $N = 89$, $p = .000$; 36–45 yr: Cohen's $\kappa = .57$, $N = 70$, $p = .000$; 46–55 yr: Cohen's $\kappa = .50$, $N = 77$, $p = .000$; 56–65 yr: Cohen's $\kappa = .41$, $N = 90$, $p = .000$; 66–75 yr: Cohen's $\kappa = .61$, $N = 37$, $p = .000$).

Extensively managed natural settings (mainly urban woodlands) and waterside environments were reselected most often. The urban favourite place category had the lowest stability (37%) and the largest negative change percentage (−30%), which indicates that most often the respondents have relinquished urban favourite places (Table 4). Changes from natural favourite places to urban places occurred very seldom, which is in accordance with the factor correlations in Table 3. For example, three of

Table 2
The importance ratings (Likert scale from 1 to 5; 1 = not at all important, 5 = very important) of the place/area which was selected as a favourite place; first and second surveys

Scale value	First survey		Second survey	
	f	%	*f*	%
1	3	.3	0	.0
2	25	2.1	2	.5
3	122	10.0	22	5.3
4	440	36.2	116	27.9
5	624	51.4	276	66.3
Total	1214	100.0	416	100.0
Missing	59		6	
Total	1273		422	

Table 3
Factor analyses of the importance of the 16 places in the first survey and in the second survey 10 months later (principal axis factoring, Promax oblique rotation, pattern matrix)

	Factor 1 Extensively managed natural settings		Factor 2 Built-up green spaces		Factor 3 Indoor and outdoor urban areas		Factor 4 Exercise and activity/hobby areas			
Survey	First	Second	First	Second	First	Second	First	Second		
N_{mean}	1259	423	1259	423	1259	423	1259	423		
α Coefficient	.84	.85	.75	.74	.78	.63	.51	.56	h^2 1st	h^2 2nd
Large forest areas	**.99**	**1.00**	−.29	−.25	.07	.00	.01	.01	.77	.77
Small-scale wooded areas	**.75**	**.75**	.11	.06	.04	.02	−.06	−.03	.60	.62
Scenery fields and meadows	**.70**	**.72**	.02	.12	−.02	.01	.05	−.02	.54	.63
Small-scale natural state areas (brook valleys, wetlands, bushes, rocks, leas)	**.62**	**.61**	.13	.08	−.01	−.01	−.03	.01	.46	.45
Large green lots	.40	.20	**.38**	**.52**	−.21	−.23	.02	.09	.50	.48
Green areas within blocks (small wooded areas in housing precincts, vest-pocket parks between the lots)	.09	.16	**.72**	**.56**	−.07	.01	.00	−.07	.56	.41
Decorative flowerbeds and glorious flowers	−.10	−.16	**.69**	**.75**	.05	.04	−.08	−.09	.40	.41
Traffic green areas (windbreaks, green lanes, tree avenues)	.06	−.01	**.69**	**.70**	.01	−.05	−.03	.01	.51	.48
Built parks (grass, passages, plants)	−.09	.01	**.46**	**.38**	.31	.36	.12	.12	.43	.42
Beaches, docks and harbours = Waterside environments	.18	.18	.22	.15	.15	.12	.18	.24	.26	.25
Street areas within the city centre	.06	.10	.06	−.01	**.82**	**.83**	−.03	−.14	.68	.63
Indoor areas within the city centre	−.03	−.11	−.01	−.07	**.79**	**.58**	−.01	.16	.62	.40
Playgrounds	−.08	−.05	.01	−.04	−.08	−.02	**.65**	**.63**	.38	.35
Sawdust tracks, sports grounds	−.02	.01	−.11	−.14	.05	−.03	**.57**	**.72**	.28	.44
Allotment gardens and cultivation parcels	.09	.06	.00	.19	−.05	.01	**.39**	**.31**	.19	.22
Dog parks	.09	.02	.06	.13	.02	.05	**.24**	**.27**	.10	.14
Eigenvalues	3.35	3.60	2.99	3.27	1.79	1.48	1.84	2.13		
Explained variance[a]	23.99	22.49	12.81	2.41	4.53	9.24	4.15	13.30		

Factor correlations

Place types/factors	First survey				Second survey			
	1.	2.	3.	4.	1.	2.	3.	4.
1. Extensively managed natural settings								
2. Built-up green spaces	.44				.45			
3. Indoor and outdoor urban areas	−.14	.19			.02	.22		
4. Exercise and activity/hobby areas	.25	.30	.09		.31	.31	.19	
5. Waterside environments (1 item)	.30	.39	.19	.28	.34	.35	.19	.32

[a] In oblique rotation, explained variance cannot be added to a total sum.

the subjects (1.5%) who reported that their favourite place was located in extensively managed natural settings (mainly urban woodlands) and three (5%) who reported waterside environment in the first survey selected urban favourite places 10 months later (Table 4). On the other hand, 68% more respondents selected exercise and activity/hobby areas in natural surroundings in the second survey than in the first one. Note that examination of place descriptions revealed that 80% of the places in the exercise areas category were situated in natural surroundings (nature recreation trails).

The majority of the respondents changing from extensively managed natural settings (mainly urban woodlands) ($n = 22$) selected built-up green spaces in the second survey and vice versa ($n = 19$). Most of the respondents changing from urban places ($n = 10$) selected built-up green spaces and most of those who changed from exercise ($n = 5$) or waterside environments ($n = 10$) selected extensively managed natural settings (mainly urban woodlands) in the second survey.

As a control analysis, we checked the changes in place for residence during the 10-month period. We found that these changes cannot explain the changes in favourite places in the current data. Only seven changes of residence occurred. One person had moved from one of our study cities to another, four individuals had moved to another postal code area within the city, and two respondents had moved within the same postal code area. The latter two showed no change in their preference for the type of favourite place. Two respondents changed their preferences from extensively managed natural settings to urban green spaces and two individuals vice versa. One person changed preference from an urban area to an urban green area.

3.4. Strength and stability of place attachment

The strength of place attachment in the whole sample differed between the favourite place types in the first survey ($F_{4,1193} = 4.9$, $p = .001$, partial $\eta^2 = .02$, power = .96). Pairwise comparisons (Bonferroni) indicated that respondents were significantly more attached to waterside environments ($M = 5.5$, SD = 1.3) than to built-up green spaces ($M = 5.0$, SD = 1.3; $p = .000$) and exercise/activity areas ($M = 5.0$, SD = 1.4; $p = .054$). The respondents were somewhat more attached (a non-significant tendency, $p = .083$) to extensively managed natural settings (mainly urban woodlands) ($M = 5.2$, SD = 1.3) than to built-up green spaces. For urban favourite places, $M = 5.3$, SD = 1.3. There were no differences in place attachment between the place types in the second survey ($F_{4,413} = 1.1$, $p = .34$, partial $\eta^2 = .01$), where the strength of place attachment ranged from $M = 5.5$ (built-up green spaces and urban places) to $M = 5.8$ (waterside environments), on average.

The mean strength of attachment was significantly higher in all types of favourite places in the second survey than in the first survey when analysed across the whole sample with a 2 (time of survey) × 5 (place type) repeated measures split-plot ANOVA ($F_{1,408} = 17.2$, $p = .000$, partial $\eta^2 = .04$, power = .99). However, the strength and stability of attachment differed among those who selected the same type (64%) and among those who selected a different favourite place type (36%) in the second survey.

Among those *respondents who had selected the same place type* in both surveys, the overall stability of strength of attachment was $r_{261} = .46$ ($p = .000$). However, stability differed between the place types (Table 5). A 2 (time of survey) × 5 (place type) repeated measures split-plot ANOVA did not reveal interaction between the

Table 4
Stability of favourite place type over the 10-month period between the first and second surveys

Favourite place types	Second survey									
First survey	1.	2.	3.	4.	5.	1st *f*	2nd *f*	Δ	Stability%	Change%
1. Extensively managed natural settings	146	22	3	15	17	203	184	−19	72	−9
2. Built-up green spaces	19	52	3	9	8	91	96	5	57	5
3. Indoor and outdoor urban areas	4	10	10	1	2	27	19	−8	37	−30
4. Exercise and activity/hobby areas	5	4	0	14	2	25	42	17	56	68
5. Waterside environments (1 item)	10	8	3	3	41	65	70	5	63	8
Total	184	96	19	42	70	411	411			
%	79	54	53	33	59					

Diagonal sum = 263; Stability% = 64%.

place type and time of survey ($F_{4,256} = .45$, $p = .77$, partial $\eta^2 = .01$, power = .16) in the strength of place attachment. Moreover, we found non-significant main effects of place type ($F_{4,256} = 1.9$, $p = .11$, partial $\eta^2 = .03$, power = .58) and a 10-month time period ($F_{1,256} = 2.6$, $p = .11$, partial $\eta^2 = .01$, power = .36).

Among those *respondents who did change their preference* in the second survey, the overall stability of strength of attachment was $r_{145} = .33$ ($p = .000$). Again, stability differed between the place types (Table 5). A 2 (time of survey) × 5 (place type) repeated measures split-plot ANOVA revealed a significant interaction between the place type and time of survey ($F_{4,140} = 2.8$, $p = .027$, partial $\eta^2 = .08$, power = .76) in the strength of place attachment. Pairwise comparisons were non-significant. The trend in the means is that attachment to built-up green spaces remains at the same level whereas there is a slight increase in other favourite places, the increase being largest in waterside and exercise/activity areas. The main effect of a 10-month time period was significant ($F_{1,140} = 9.2$, $p = .003$, partial $\eta^2 = .06$, power = .85) but that of place type was insignificant ($F_{4,140} = .36$, $p = .84$, partial $\eta^2 = .01$, power = .13).

Stability across the whole sample was highest among those respondents who selected waterside environments or extensively managed natural settings (mainly urban woodlands) (Table 5). It was lowest among those who selected urban favourite places.

4. Discussion

The majority of the respondents responded to a forced choice of one favourite place in our survey. Less than 5% did not select a favourite place. Some of the comments indicated that these respondents had several favourite places and could not choose between them. Forty-four percent of the respondents to the second survey selected the same favourite place and 64% selected the same main type of a favourite place as 10 months earlier. Both figures indicate more stable choices than might be expected by chance. This result held in both genders and in all age groups suggesting that the overall result is not produced by one age group or gender only. Thus, our findings reveal reasonable reliability and temporal stability in favourite place choices. Temporal stability lends further credence and credibility to earlier results concerning the probability of self-regulation and restorative experiences in favourite places (Korpela, 1989, 1992, 2002; Korpela et al., 2001). If there are long-term favourite place preferences, then self-regulation and restorative experiences in favourite places are likely to be more than occasional phenomena. Evidence of stability in these preferences warrants longitudinal studies on favourite places, restorative outcomes, well-being and health (cf. Korpela & Ylén, 2007).

Of the individual favourite places, allotment gardens were reselected most frequently after 10 months had elapsed, followed by beaches and harbour areas. Indoor areas within the city centre had the lowest percentage of reselection after 10 months. These results were replicated on the level of main types of favourite places. Extensively managed natural settings (mainly urban woodlands) and waterside environments were reselected most often and the urban favourite places least often. Thus, the respondents most often relinquished urban favourite places. Changes from natural favourite places to urban places occurred very seldom. Our other results not reported here suggest that restoration outcomes were highest in natural favourite places and lowest in urban favourite places (Korpela et al., submitted for publication). As the changes in favourite places were not attributable to changes in residence (which happened to 1.2% of the second sample members), the high level of restorative experiences may partly explain the reluctance to relinquish natural favourite places. The season during which the surveys were conducted may partly explain the changes in the favourite places. The second survey being conducted in late summer may have biased the favourite

Table 5
Means and standard deviations of the place attachment scale (two items) by favourite place type in the first survey (subscript 1) and in the second survey 10 months later (subscript 2) among those who selected a different vs. similar favourite place in the two surveys

	Change in favourite place				No change in favourite place			
	M_1	M_2	SD_1	SD_2	M_1	M_2	SD_1	SD_2
Extensively managed natural settings $r_{12(182)} = .47$, $p = .000$	5.4	5.5 $r_{12(35)} = .46$, $p = .006$	1.4	1.4	5.3	5.7 $r_{12(145)} = .47$, $p = .000$	1.2	1.2
Built-up green spaces $r_{12(99)} = .37$, $p = .000$	5.6	5.6 $r_{12(44)} = .42$, $p = .005$	1.2	1.4	5.0	5.4 $r_{12(52)} = .29$, $p = .036$	1.5	1.2
Indoor and outdoor urban areas $r_{12(20)} = .11$, $p = .648$	5.4	5.7 $r_{12(9)} = -.18$, $p = .649$	1.3	1.2	5.2	5.2 $r_{12(10)} = .43$, $p = .215$	1.3	1.1
Exercise and activity/hobby areas $r_{12(42)} = .32$, $p = .042$	4.9	5.7 $r_{12(28)} = .17$, $p = .387$	1.4	1.0	5.7	5.8 $r_{12(13)} = .65$, $p = .016$	1.2	1.1
Waterside environments $r_{12(70)} = .51$, $p = .000$	4.9	5.9 $r_{12(29)} = .48$, $p = .008$	1.4	1.1	5.7	5.9 $r_{12(41)} = .58$, $p = .000$	1.4	1.3
Total $N = 406$	145				261			

In, for example, $r_{12(35)}$, the number in parenthesis represents *N*.

place selections to natural places. However, the weather was exceptionally warm in October 2005 during the first survey. The temperature was around +10 °C in the study areas, the grass was still green and the trees had not dropped all the leaves. The difference in the situation during the second survey, August 2006 (mean temperature +13 to +14 °C), was not drastic.

In the first survey, the respondents were – for some unknown reason – significantly more attached to waterside environments than to built-up green spaces and exercise/activity areas. The mean strength of attachment to a favourite place was generally higher in the second survey than in the first survey. The characteristics of the second sample where only those interested in the second study (and possibly in nature and health issues) participated may explain this finding. Nevertheless, among those respondents who selected the same place type in both surveys, we found no significant differences in the average strength of attachment between the two surveys or between place types. Among those respondents who did change their preference in the second survey, the trend in the means indicated that attachment to built-up green spaces remained at the same level whereas there was a slight increase in other favourite places, the increase being greatest in waterside and exercise/activity areas. Thus, people were inclined to change their preference to places to which stronger attachment was possible. The overall stability of the strength of attachment was greater among those who did not change their favourite place than among those who did. Stability across the whole sample was highest among those respondents who selected waterside environments or extensively managed natural settings (mainly urban woodlands). It was lowest among those who selected urban favourite places. Thus, we found evidence of people being more consistent in their attachment to natural favourite places than to urban favourite places. Correlations between the place types (factors) also suggest that the importance of one kind of natural favourite place predicts the importance and possibly the future selection of other kinds of natural favourite places but not the importance and selection of urban favourite places (and vice versa).

Evidence of the generally high level of attachment to favourite places (4.9–5.9 on a seven-point Likert scale where 5 = quite a lot and 6 = very much) together with stability (above chance level) in favourite place choices and in the strength of place attachment indicates that future studies of the contribution of favourite place experiences to the development of place identity are potentially fruitful (Korpela, 1989; Proshansky, Fabian, & Kaminoff, 1983; Sarbin, 2005). However, the present study suggests that the phenomenon may be somewhat different and develop differently according to the place type.

Acknowledgements

The study was financed by a grant from the Academy of Finland (Project 211031). We thank anonymous reviewers for constructive comments.

References

Brooks, J. J., Wallace, G. N., & Williams, D. R. (2006). Place as a relationship partner: an alternative metaphor for understanding the quality of visitor experience in a backcountry setting. *Leisure Sciences, 28*, 331–349.

CabeSpace. (2004). Is the grass greener? Learning from international innovations in urban green space management. Available from. http://www.cabe.org.uk/AssetLibrary/2028.pdf/. Accessed 29.01.07.

Chatterjee, S. (2005). Children's friendship with place: a conceptual inquiry. *Children, Youth, and Environments, 15*, 1–26, Available from. http://www.colorado.edu/journals/cye/. Accessed 01.05.06.

Davenport, M. A., & Anderson, D. H. (2005). Getting from sense of place to place-based management: an interpretive investigation of place meanings and perceptions of landscape change. *Society & Natural Resources, 18*, 625–641.

Evans, W. P., Owens, P., & Marsh, S. C. (2005). Environmental factors, locus of control, and adolescent suicide risk. *Child and Adolescent Social Work Journal, 22*, 301–319.

Feldman, R. M. (1990). Constancy and change in attachments to types of settlements. *Environment & Behavior, 28*, 419–445.

Giuliani, M. V. (2004). Residential preferences and attachment across the lifespan. In Ch. Spielberg (Ed.), *Encyclopedia of Applied Psychology, Vol. 3* (pp. 259–266). San Diego, CA: Elsevier/Academic Press.

Gross, H., & Lane, N. (2007). Landscapes of the lifespan: exploring accounts of own gardens and gardening. *Journal of Environmental Psychology, 27*, 225–241.

Hammitt, W. E., Backlund, E. A., & Bixler, R. D. (2004). Experience use history, place bonding and resource substitution of trout anglers during recreation engagements. *Journal of Leisure Research, 36*, 356–378.

Hammitt, W. E., Backlund, E. A., & Bixler, R. D. (2006). Place bonding for recreation places: conceptual and empirical development. *Leisure Studies, 25*, 17–41.

Hartig, T., Evans, G. W., Jamner, L. D., Davis, D. S., & Gärling, T. (2003). Tracking restoration in natural and urban field settings. *Journal of Environmental Psychology, 23*, 109–123.

Hidalgo, M. C., & Hernández, B. (2001). Place attachment: conceptual and empirical questions. *Journal of Environmental Psychology, 21*, 273–281.

Jorgensen, A., Hitchmough, J., & Dunnett, N. (2007). Woodland as a setting for housing – appreciation and fear and the contribution to residential satisfaction and place identity in Warrington New Town, UK. *Landscape and Urban Planning, 79*, 273–287.

Jorgensen, B. S., & Stedman, R. C. (2001). Sense of place as an attitude: lakeshore owners attitudes toward their properties. *Journal of Environmental Psychology, 21*, 233–248.

Kaltenborn, B. P. (1997). Nature of place attachment: a study among recreation homeowners in southern Norway. *Leisure Sciences, 19*, 175–189.

Knez, I. (2006). Autobiographical memories for places. *Memory, 14*, 359–377.

Korpela, K. (1989). Place-identity as a product of environmental self-regulation. *Journal of Environmental Psychology, 9*, 241–256.

Korpela, K. (1992). Adolescents' favourite places and environmental self-regulation. *Journal of Environmental Psychology, 12*, 249–258.

Korpela, K. (2002). Children's environment. In R. B. Bechtel, & A. Churchman (Eds.), *Handbook of environmental psychology* (pp. 363–373). New York: John Wiley.

Korpela, K. M. (2003). Negative mood and adult place preference. *Environment & Behavior, 35*, 331–346.

Korpela, K. M., & Hartig, T. (1996). Restorative qualities of favourite places. *Journal of Environmental Psychology, 16*, 221–233.

Korpela, K. M., Hartig, T., Kaiser, F., & Fuhrer, U. (2001). Restorative experience and self-regulation in favourite places. *Environment & Behavior, 33*, 572–589.

Korpela, K., & Ylén, M. (2007). Perceived health is associated with visiting natural favourite places in the vicinity. *Health & Place, 13*, 138–151.

Korpela, K.M., Ylén, M., Tyrväinen, L., & Silvennoinen, H. (2008). Determinants of restorative experiences in everyday favourite places. Health & Place, *14*, 636–652.

Korpela, K., Ylén, M., Tyrväinen, L., & Silvennoinen, H. (submitted for publication). Differences in stress-alleviating experiences between types of favourite green, waterside and urban environments and their relation to perceived health.

Kyle, G., Bricker, K., Graefe, A., & Wickham, T. (2004). An examination of recreationists' relationships with activities and settings. *Leisure Sciences, 26*, 123–142.

Kyle, G. T., Mowen, A. J., & Tarrant, M. (2004). Linking place preferences with place meaning: an examination of the relationship between place motivation and place attachment. *Journal of Environmental Psychology, 24*, 439–454.

Manzo, L. C. (2003). Beyond house and haven: toward a revisioning of emotional relationships with places. *Journal of Environmental Psychology, 23*, 47–61.

McAndrew, F. T. (1998). The measurement of "rootedness" and the prediction of attachment to home-towns in college students. *Journal of Environmental Psychology, 18*, 409–417.

Newell, P. B. (1997). A cross-cultural examination of favourite places. *Environment & Behavior, 29*, 495–514.

Proshansky, H. M., Fabian, A. K., & Kaminoff, R. (1983). Place-identity: physical world socialization of the self. *Journal of Environmental Psychology, 3*, 57–83.

Regan, C. L., & Horn, S. A. (2005). To nature or not to nature: associations between environmental preferences, mood states and demographic factors. *Journal of Environmental Psychology, 25*, 57–66.

Sarbin, T. R. (2005). If these walls could talk: places as stages for human drama. *Journal of Constructivist Psychology, 18*, 203–214.

Scopelliti, M., & Giuliani, M. V. (2004). Choosing restorative environments across the life span: a matter of place experience. *Journal of Environmental Psychology, 24*, 423–437.

Smaldone, D., Harris, C., & Sanyal, N. (2005). An exploration of place as a process: the case of Jackson Hole, WY. *Journal of Environmental Psychology, 25*, 397–414.

Tyrväinen, L., Mäkinen, K., & Schipperijn, J. (2007). Tools for mapping social values of urban woodlands and other green areas. *Landscape and Urban Planning, 79*, 5–19.

Ulrich, R. S., Simons, R., Losito, B. D., Fiorito, E., Miles, M. A., & Zelson, M. (1991). Stress recovery during exposure to natural and urban environments. *Journal of Environmental Psychology, 11*, 201–230.

Urban Ecosystem Europe. (2006). Available from. http://www.ambienteitalia.it/chisiamo_engl/pdf/Urban%20Ecosystem_EU2006.pdf/. Accessed 29.01.07.

Williams, D. R., Patterson, M. E., Roggenbuck, J. W., & Watson, A. E. (1992). Beyond the commodity metaphor: examining emotional and symbolic attachment to place. *Leisure Sciences, 14*, 29–46.