Greenspace and life satisfaction: The moderating role of fear of crime in the neighbourhood

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Abstract

This paper uses data on self-reported life satisfaction, fear of crime and access to greenspace to explore the relationship between the (potential) welfare benefits of greenspace and fear of crime in New Zealand neighbourhoods. In line with existing evidence, results suggest that improved access to greenspaces is associated with higher levels of life satisfaction. The strength of this association, however, is strongly dependent on fear of crime. Specifically, when residents report that they feel 'unsafe' or 'very unsafe' walking alone in their neighbourhood, the life satisfaction benefits of access to greenspace are not marginally reduced, rather, they disappear entirely. From a policy perspective, these results are particularly important, suggesting that any benefits derived from sourcing, provisioning and managing greenspace are dependent upon managing actual and perceived levels of crime.

Keywords

Fear of Crime; Greenspace; Life Satisfaction; New Zealand General Social Survey (NZGSS).

Introduction

Evidence suggests that greenspace promotes health and well-being. Identified channels through which this may occur include restorative psychological benefits (cf. Kaplan, 1995), reduced stress (cf. Ulrich et al., 1991), greater physical activity (cf. Jones et al., 2009; Sugiyama et al., 2010; Sugiyama et al., 2008), increased longevity (cf. Takano et al., 2002), increased social interaction (cf. Francis et al., 2012), and greater life satisfaction or happiness (cf. Ambrey and Fleming, 2013; MacKerron and Mourato, 2013). Reviews of the literature are provided by Bell et al. (2008), Croucher et al. (2007a), Croucher et al. (2007b), Sunderland (2012) and, in the New Zealand context, Blaschke (2013).

Evidence however, also points to greenspace being associated with fear of crime. For example, Schipperijn (2010) cites evidence that urban greenspaces are seen as dangerous places (cf. Jorgensen et al., 2007; Ward Thompson et al., 2004) and people might fear going there (cf. Jorgensen and Anthopoulou, 2007; Van den Berg and Ter Heijne, 2005). Aspects that underpin the positive experience of greenspace (e.g. enclosure, seclusion and other-worldliness) are also the foundation of the fear and unease that people experience when coming into contact with this space (e.g. fear of becoming the victim of physical or sexual assault, robbery or bullying and intimidation from groups of young people). These fears are compounded by the idea that, if anything were to happen, no-one would come to their aid (Burgess, 1995).

It is not surprising then to find that residents report fear of crime to be a barrier to using greenspace (cf. McCormack et al., 2010), report higher life satisfaction in safer neighbourhood greenspace (cf. Sugiyama et al., 2009) and that residents in neighbourhoods with more greenspace who are more fearful of crime also experience greater psychological distress (cf. Chong et al., 2013). The literature, however, does not clearly identify the magnitude of any reduction in the well-being benefits of greenspace that can be attributed to the fear of crime. This is the purpose of our study.

Specifically, in view of the existing literature and in the context of New Zealand, this paper aims to test the following hypotheses:

H1: Easy access to greenspace is positively associated with a resident's self-reported life satisfaction.

H2: A resident's satisfaction with the quality of greenspace in their neighbourhood is positively associated with their self-reported life satisfaction.

H3: Fear of crime in a resident's neighbourhood is negatively associated with that resident's self-reported life satisfaction. And

H4: Fear of crime in a resident's neighbourhood reduces the positive association between access to greenspace and self-reported life satisfaction.

The paper proceeds as follows. Section 2 describes method and data, results are presented in Section 3. Section 4 provides some concluding remarks.

Method and data

A micro-econometric life satisfaction model is estimated, where life satisfaction is a function of socio-economic and demographic characteristics, access to greenspace, satisfaction with the quality of greenspace, fear of crime in the neighbourhood and other covariates. The model takes the form of an indirect life satisfaction function for resident r, in location k, at time t, as follows:

$$LS_{r,k,t} = \omega + \beta y_{r,k,t} + \gamma' \mathbf{x}_{r,k,t} + \delta z_{r,k,t} + \vartheta q_{r,k,t} + \psi \theta_{r,k,t} + \kappa_k + \tau_t + \varepsilon_{r,k,t} \qquad (1)$$

Where: $LS_{r,k,t}$ is the self-reported life satisfaction of resident r, in location k, at time t; $y_{r,k,t}$ is equivalised household income; $\mathbf{x}_{r,k,t}$ is a vector of socio-economic and demographic characteristics, neighbourhood (dis)amenities and other controls; $z_{r,k,t}$ denotes access to greenspace in a resident's neighbourhood; $q_{r,k,t}$ denotes satisfaction with quality of greenspace in a resident's neighbourhood, $\theta_{r,k,t}$ denotes fear of crime in the neighbourhood,[1] κ_k and τ_t are location and time fixed effects, and $\varepsilon_{r,k,t}$ is the error term.

The model is then extended to examine the interaction between access to greenspace ($z_{r,k,t}$) and fear of crime ($\theta_{r,k,t}$) (Equation 2). Similar to estimation strategies employed elsewhere (cf. Brereton et al., 2008), an ordered logit model is estimated by maximum likelihood estimation.

$$LS_{r,k,t} = \omega + \beta y_{r,k,t} + \gamma' \mathbf{x}_{r,k,t} + \delta z_{r,k,t} + \psi \theta_{r,k,t} + \eta z_{r,k,t} \theta_{r,k,t} + \kappa_k + \tau_t + \varepsilon_{r,k,t} \qquad (2)$$

As shown by Ferreira and Moro (2010) it is possible to estimate the implicit willingness-to-pay (denoted WTP) for a marginal change in an amenity or disamenity by taking the partial derivative of life satisfaction with respect to (in our case) access to greenspace in the neighbourhood and the partial derivative of life satisfaction with respect to household income, as follows:

$$WTP = \frac{\frac{\partial LS_{i,k,t}}{\partial z_{i,k,t}}}{\frac{\partial LS_{i,k,t}}{\partial y_{i,k,t}}} \qquad (3)$$

Data is obtained from the 2008 and 2010 waves of the New Zealand General Social Survey (NZGSS). The NZGSS provides information on the well-being of New Zealanders. The target population for the NZGSS is the usually resident New Zealand population aged 15 years and over in private dwellings in the North Island, South Island, or Waiheke Island. Both household and personal questionnaires are used to collect data, with one individual in the household randomly selected to answer the personal questionnaire. The NZGSS uses a three-stage sample selection method.[2] Of the 17,271 respondents who answered the personal questionnaire (8,550 in 2008 and 8,721 in 2010), we subset the data to 15,118 respondents who answered all required questions. 46.8 per cent of the sample are male, and 15.1 per cent are of Maori or Pacific Island descent. In regards to education, 18.6 per cent

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[1] Fear of crime encapsulates a cognitive aspect (the perceived risk of victimisation) and an affection component (the emotional response to crime or symbols associated with crime). See: Lorenc, T., Clayton, S., Neary, D., Whitehead, M., Petticrew, M., Thomson, H., Cummins, S., Sowden, A., Renton, A., 2012. Crime, fear of crime, environment, and mental health and wellbeing: Mapping review of theories and causal pathways. Health & Place 18, 757-765.
[2] For further details see: http://www.stats.govt.nz/browse_for_stats/people_and_communities/Well-being/nzgss-info-releases.aspx

have a Bachelors degree or higher, while 57.6 per cent have either a certificate or diploma. In regards to labour force participation, 14.1 per cent are in part-time work, 3.3 per cent are unemployed and 33.4 per cent are classified as non-participants.

The dependent life satisfaction variable is obtained from residents' responses to the question: "*How do you feel about your life as a whole right now?*" This an ordinal variable, discretely categorised as; "*very satisfied*"; "*satisfied*"; "*no feeling either way*"; "*dissatisfied*"; "*very dissatisfied*". Figure 1 below provides a frequency distribution of the life satisfaction variable.
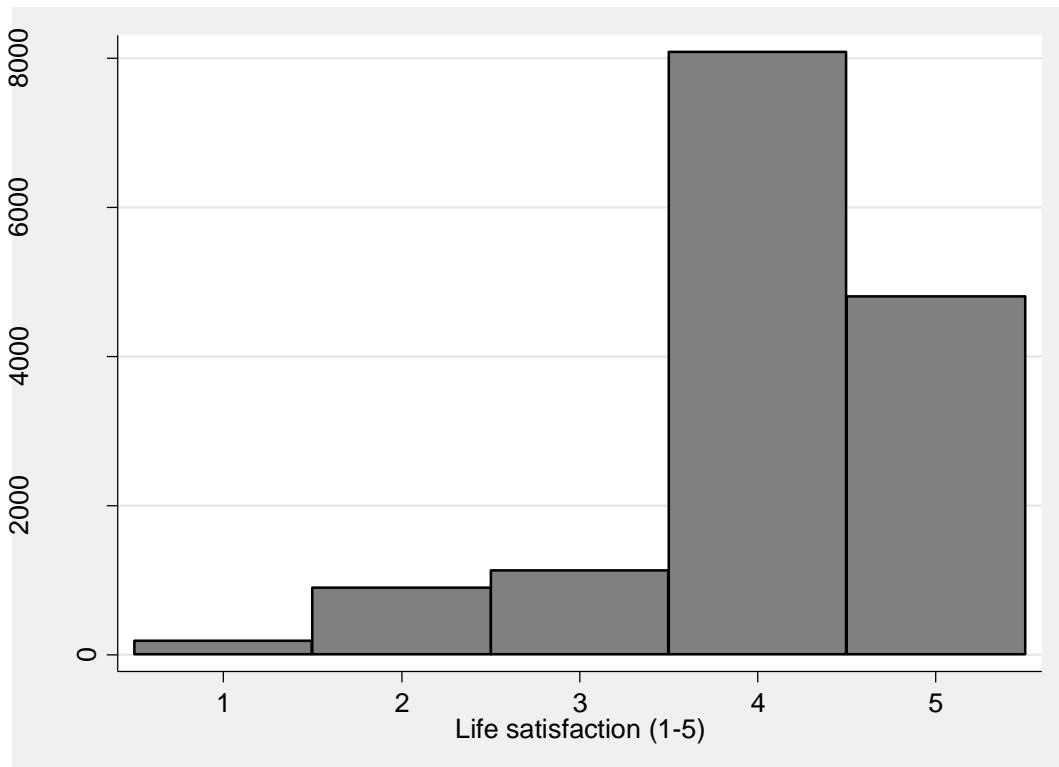

Figure 1: Frequency distribution of life satisfaction (1-5)

The access to greenspace measure is derived from response to the question: "*How many of the native bush, forest, nature reserve or open green spaces in your local area can you easily get to?*" To this question, the resident may respond: "*all of them*"; "*most of them*"; "*some of them*"; "*only a few of them*"; "*none of them*"; "*never want or need to go to any of them*"; "*don't know*"; or "*refused*". The satisfaction with greenspace measure is derived from response to the question: "*Overall, how do you feel about the state of the native bush, forests, nature reserves, and open green spaces that you've been to?*" To this question, the resident may respond: "*very satisfied*"; "*satisfied*"; "*no feeling either way*"; "*dissatisfied*"; "*very dissatisfied*"; "*haven't been to any of them*"; "*don't know*"; or "*refused*".

Fear of crime in a resident's neighbourhood is measured using resident's responses to the questions: "*How safe do you feel walking alone at night in your*

neighbourhood?" and *"How safe do you feel walking alone during the day in your neighbourhood?"* To both questions the resident may respond: *"very safe"*; *"safe"*; *"unsafe"*; *"very unsafe"*; *"not applicable"*; *"don't know or refused"*. Appendix A provides a description of all variables employed.

Results

In order to test Hypotheses 1-3, we estimate Equation 1. Results are reported in Appendix B. In regards to socio-economic and demographic characteristics, results largely support the existing literature and *a priori* expectations. That is, life satisfaction is U-shaped in age, reaching a minimum when a resident is in their forties and fifties. Males are found to be less satisfied than women. Lone parents are found to have lower levels of life satisfaction, even after controlling for having children in the household, which itself has an adverse impact on a resident's life satisfaction. Having a partner is associated with higher levels of life satisfaction as is a higher physical health status score. With regards to education, those with a diploma, Bachelors degree or higher qualification are found to be more satisfied with their lives. Unemployment, even after controlling for income (which itself has a positive effect), appears to be quite detrimental to a resident's life satisfaction. Being a non-participant in the labour force (including retirees, those performing home duties and non-working students) is associated with higher levels of life satisfaction. Not owning your own home and being dissatisfied with your amount of free time are both associated with lower levels of life satisfaction.

In Appendix B, the marginal effect[3] for the "access all greenspace" variable is 0.0280, statistically significant at the 1 per cent level. Thus, we do not reject the hypothesis that ease of access to greenspace is positively associated with a resident's self-reported life satisfaction (Hypothesis 1). Similarly, the "satisfied with greenspace" variable is positive and statistically significant at the 1 per cent level, with a marginal effect of 0.0382. We, therefore, do not reject the hypothesis that satisfaction with the quality of greenspace in a resident's neighbourhood is positively associated with that resident's self-reported life satisfaction (Hypothesis 2). The "fear of crime" variable is negative and statistically significant at the 1 per cent level, with a marginal effect of -0.0186. Thus, we do not reject the hypothesis that fear of crime in a resident's neighbourhood is negatively associated with a resident's self-reported life satisfaction (Hypothesis 3).

In order to test Hypothesis 4, we estimate Equation 2. The marginal effect of the interaction term between "access all greenspace" and "fear of crime" is -0.0329 (standard error of 0.0139), statistically significant at the 5 per cent level. This suggests that residents who fear crime derive no life satisfaction benefit from access to greenspace in their neighbourhood; in fact, they are perhaps slightly worse off for

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[3] In all cases the marginal effect is the change in the probability of a respondent reporting to be *"very satisfied"* with their life for a one unit change in the explanatory variable.

having access to greenspace. This effect is depicted in the right hand column of Figure 2. In contrast, the left hand column of Figure 2 shows that residents who do *not* fear crime, are approximately 6.17 per cent more likely to report being very satisfied with their lives if they are easily able to access greenspace.
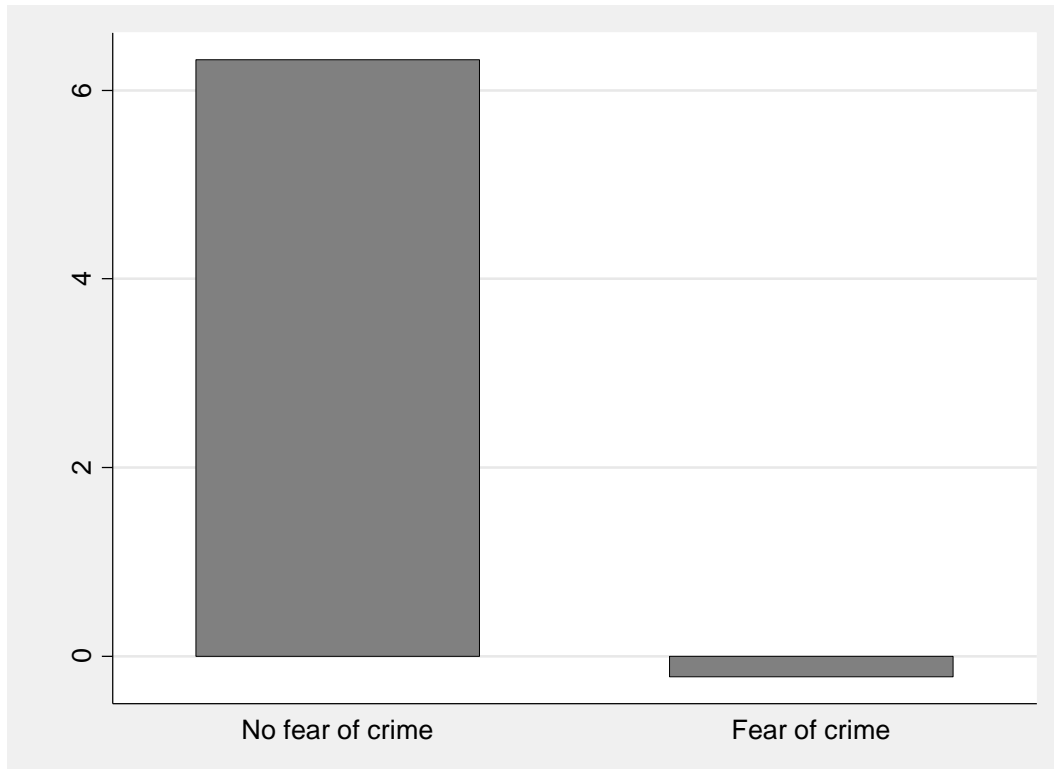

Figure 2: Marginal effects for access all greenspace interacted with fear of crime

Using Equation 3 and the marginal effects estimates from Table 2, we are able to monetise the reported effects of greenspace on life satisfaction. This exercise yields an implicit willingness-to-pay for easy access to all greenspaces (as compared to not having easy access) of approximately $36,000.[4,5]

Discussion

This paper explores preferences for greenspace in New Zealand and the extent to which these preferences depend on fear of crime in the neighbourhood. The life satisfaction approach is used to capture the well-being benefits associated with greenspace. A key finding is that residents with easy access to all native bush, forest, nature reserve or open greenspace in their neighbourhood report higher levels of life satisfaction. This is equivalent to an implicit willingness-to-pay of $36,000 in terms of annual household income. While not directly comparable, this figure is substantially higher than Vesely's (2007) contingent valuation finding that New Zealand households would be willing-to-pay $184 per annum to avoid a 20

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[4] All implicit willingness-to-pay valuations are in terms of annual equivalised household income.
[5] All figures are in NZD. As at 8 December 2013, 1 NZD = 0.83 USD / 0.60 EUR / 0.91 AUD.

per cent reduction in a resident's neighbourhood tree estate. This considerable monetary difference may, in part, be explained by the size of the life satisfaction benefits associated with greenspace. Alternatively, the difference may be explained by two possible sources of bias: (1) a bias in the marginal effect of income owing to an endogenous relationship between income and life satisfaction; and (2) the fact that residents with strong preferences for greenspace may self-select into neighbourhoods with easy access to greenspace.

The finding that easy access to greenspace enhances a resident's self-reported life satisfaction, however, is strongly dependent on fear of crime in the neighbourhood. If residents fear crime, the associated positive life satisfaction effects are completely forgone. In contrast, if residents do not fear crime, the positive life satisfaction effects are enhanced. Fear of crime is thus quite destructive to a resident's appreciation of greenspace.

The obvious explanation for this result is that fear of crime reduces residents' use of greenspace, thereby reducing any life satisfaction benefits associated with the use of such spaces. This explanation is supported by the findings of a number of studies (cf. Foster et al., 2012; Seaman et al., 2010), which cite fear of crime as a barrier to the use of greenspace and to physical activity in a resident's neighbourhood more generally.

From a policy perspective, the design and maintenance of greenspace are likely to be important factors in determining fear of crime and, therefore, the well-being effects of that space. For example, poorly designed greenspace may promote crime and fear of crime by offering concealment or refuge, while better designed greenspace (e.g. with greater visibility) may engender lower levels of fear of crime (Gatersleben and Andrews, 2013; Kuo and Sullivan, 2001). As explained by Kuo et al. (1998), in line with Wilson and Kelling's (1982) "broken windows" thesis, the presence of well-maintained greenspace may reduce the fear of crime by sending a signal to residents and to potential offenders that this is a cared-for place with civilised standards of behaviour.

The findings of our investigation highlight the need to address fear of crime in the neighbourhood in order to realise the full benefits of policies directed at promoting the use of greenspace. In a practical sense, in addition to the design and maintenance of greenspace, other options that may mitigate the fear of crime include: increasing informal surveillance in greenspace (Kuo and Sullivan, 2001); correcting (mis)perceptions of crime (the cognitive dimension of fear of crime) through reporting (Weatherburn and Indermaur, 2004); and strengthening the feeling of neighbourhood cohesion (Renaur, 2007).

Acknowledgements

Biography

Christopher Ambrey is a PhD candidate and a Research Associate at Griffith University's Social and Economic Research Program (SERP). Christopher's research interests include; welfare economics, the economics of happiness, the history of economic thought, ecological economics, non-market valuation, environmental economics, natural resource economics, the economics of social issues, the economics of crime, and the economics of war.

Christopher Fleming is a Director of Griffith University's Social and Economic Research Program (SERP), a Senior Lecturer in the Department of Accounting, Finance and Economics, and a Senior Associate of MainStream Economics and Policy. An applied micro-economist with teaching, consulting and public policy experience, Christopher's research and consulting interests include, social and economic project/program evaluation, natural resource and environmental economics, the economic determinants of subjective wellbeing, the economics of crime, the sustainable management of natural resources and the economics of tourism.

Matthew Manning is a Director of Griffith University's Social and Economic Research Program (SERP), and Fellow of the Centre for Aboriginal Economic Policy Research, Australian National University. Matthew employs econometric and economic modelling techniques to measure the impact of social and crime prevention programs and policies. Matthew employs a range of techniques used in operations research to provide policy advice to government agencies. Matthew has published in the areas of developmental and situational crime prevention, the economic determinants of subjective wellbeing, and the economics of crime.

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Appendix A: Model variables

Variable name	Definition	Mean (std. dev.)	% value 1 (DV)
Dependent variable			
Life satisfaction	Resident's self-reported life satisfaction where 1 is very dissatisfied and 5 is very satisfied.	4.0867 (1.6025)	
Demographic characteristics			
Age (15-19)	Resident is between 15 and 19 years of age		5.6%
Age (20-29)	Resident is between 20 and 29 years of age		12.2%
Age (40-49)	Resident is between 40 and 49 years of age		19.3%
Age (50-59)	Resident is between 50 and 59 years of age		16.2%
Age (60 or greater)	Resident is 60 years of age or greater		28.9%
Male	Resident is male		46.8%
Māori	Resident's ethnicity is Māori		11.3%
Pacific	Resident's ethnicity is Pacific Islander		3.8%
Asian	Resident's ethnicity is Asian		6.4%
Have a child	Resident has at least one dependent child or adult child and possibly others of an unknown dependency status		41.5%
Lone parent	Resident is one parent with at least one dependent child or adult child and possibly others of an unknown dependency status		10.3%
Partnered	Resident's social marital status is partnered		56.0%

Physical health	Resident's physical health status score (on a scale of 0 to 100) a derived variable elicited from the SF-12.	49.5593 (10.4347)
Certificate	Resident's highest level of educational attainment is a certificate (includes trade certificates and secondary school certificates)	43.6%
Diploma	Resident's highest level of educational attainment is a diploma (includes nursing and teaching diplomas and advanced trade certificates)	14.0%
Bachelors degree or higher	Resident's highest level of educational attainment is a Bachelors degree or higher	18.6%
Unemployed	Resident is unemployed	3.3%
Part-time	Resident works part-time	14.1%
Non-participant	Resident is not in the labour force	32.4%
Equivalised household income (ln)	Natural log of resident's annual equivalised household income.	10.7441 (10.3192)
Do not own home	Resident does not own home	45.0%
Dissatisfied with free time	Resident is dissatisfied with their free time	42.3%

Civic life and social connectedness

Help in a crisis	Resident is able to get support in time of crisis and small favours available	94.5%
Right amount of family contact contact	Resident has about the right amount of contact with their family	72.6%
Not isolated	Resident feels isolated from others some	66.2%

from others	none of the time	
Voted in national elections	Resident voted in the last general election	79.3%
Did voluntary work	Resident did voluntary work for a group or organisation	32.0%
Feel that they belong to NZ	Resident feels very strongly or strongly that they belong to New Zealand	89.6%
Can express their identity	Resident feels they very easily or easily express their identity	83.2%

Crime and fear of crime

Experienced a violent crime	Resident had a violent crime committed against them in the last 12 months	1.6%
Experienced a non-violent crime	Resident had a non-violent crime committed against them in the last 12 months	0.6%
Fear of crime	Resident reported feeling very unsafe or unsafe to walk alone in their neighbourhood	34.1%

Greenspace access and quality

Access all greenspace	Resident can access easily all; native bush; forest; nature reserve or open green spaces in the neighbourhood	39.4%
Satisfied with greenspace	Resident is very satisfied or satisfied with the state of the; native bush; forest; nature reserve or open green spaces the respondent has been to	83.0%

Other neighbourhood characteristics

Deprivation index	The New Zealand deprivation index 2006 for the resident's area. The ordinal variable ranges from 1 to 10, where 1 represents least deprived areas and 10 most deprived	5.4733 (2.7399)

	areas	
Too far from work	Resident feels that a major problem with their neighbourhood is that they live too far from work	4.0%
Too far from other amenities	Resident feels that a major problem with their neighbourhood is that they live too far from other amenities	3.5%
Noise problems	Resident feels that a major problem with their neighbourhood is noise or vibrations	13.3%
Air pollution problems	Resident feels that a major problem with their neighbourhood is air pollution from traffic fumes, industry or other smoke	3.8%
Access to facilities	Resident can access most or all facilities (such as; shops; schools; post shops; libraries; medical services)	92.5%
Condition of facilities	Resident is very satisfied or satisfied with the condition of facilities in the neighbourhood	87.0%
Access to public transport	Resident is very satisfied or satisfied with their access to public transport in the neighbourhood	38.2%
Satisfaction with public transport	Resident is very satisfied with the condition of public transport vehicles, such as buses and trains in the neighbourhood	35.2%
Satisfaction with council services	Resident is very satisfied or satisfied with the quality of council services such as; water supply; drainage; rubbish collection and roads in the neighbourhood	70.3%
Access to water bodies	Resident can easily access all or most; lakes; rivers; harbours; oceans and coastlines	82.0%
Satisfaction with state of water bodies	Resident is very satisfied or satisfied with the state of the lakes; rivers; harbours; oceans and coastlines they have been to	71.5%

Other dummy variables employed include: secondary urban; minor urban area; rural area; regional dummy variables; year dummy variable; never want or need to go to greenspaces; have not been to any of the greenspaces; public transport not available in area; does not use public transport for other reasons.

Appendix B: 2: Baseline model results

Variable name	Coefficient (standard error)	Marginal effect[6] (standard error)
Demographic characteristics		
Age (15-19)	0.7104*** (0.0868)	0.1354*** (0.0164)
Age (20-29)	0.2590*** (0.0607)	0.0494*** (0.0115)
Age (40-49)	-0.0998* (0.0532)	-0.0190* (0.0101)
Age (50-59)	-0.1777*** (0.0605)	-0.0339*** (0.0115)
Age (60 or greater)	0.3213*** (0.0655)	0.0612*** (0.0125)
Male	-0.2661*** (0.0357)	-0.0507*** (0.0068)
Māori	0.0068 (0.0560)	0.0013 (0.0107)
Pacific	0.1270 (0.0893)	0.0240 (0.0170)
Asian	-0.1051 (0.0664)	-0.0200 (0.0127)
Have a child	-0.0950** (0.0457)	-0.0181** (0.0087)
Lone parent	-0.2496*** (0.0688)	-0.0476*** (0.0131)
Partnered	0.4614***	0.0879***

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[6] This marginal effect is interpreted as residents having easy access to all greenspaces are 2.8057% more likely to report being very satisfied (a life satisfaction score of 5) with their life than residents who do not have easy access to all greenspaces.

	(0.0411)	(0.0078)
Physical health	0.0136***	0.0026***
	(0.0019)	(0.0004)
Certificate	0.0428	0.0082
	(0.0441)	(0.0084)
Diploma	0.2269***	0.0432***
	(0.0584)	(0.0111)
Bachelors degree or higher	0.2941***	0.0560***
	(0.0582)	(0.0111)
Unemployed	-0.7478***	-0.1425***
	(0.1034)	(0.0196)
Part-time	0.0404	0.0077
	(0.0530)	(0.0101)
Non-participant	0.1204**	0.0229**
	(0.0505)	(0.0096)
Equivalised household income (ln)	0.1908***	0.0364***
	(0.0246)	(0.0047)
Do not own home	-0.0790**	-0.0151**
	(0.0345)	(0.0066)
Dissatisfied with free time	-0.1291***	-0.0246***
	(0.0367)	(0.0070)
Civic life and social connectedness		
Help in a crisis	0.5154***	0.0982***
	(0.0693)	(0.0132)
Right amount of family contact	0.1572***	0.0300***
	(0.0377)	(0.0072)
Not isolated from others	0.7050***	0.1344***
	(0.0374)	(0.0070)
Voted in national elections	0.0577	0.0110

	(0.0479)	(0.0091)
Did voluntary work	0.3650***	0.0696***
	(0.0360)	(0.0068)
Feel that they belong to NZ	0.3878***	0.0739***
	(0.0567)	(0.0108)
Can express their identity	0.4296***	0.0819***
	(0.0466)	(0.0089)
Crime and fear of crime		
Experienced a violent crime	-0.1038	-0.0198
	(0.1291)	(0.0246)
Experienced a non-violent crime	-0.6288***	-0.1198***
	(0.1957)	(0.0373)
Fear of crime	-0.0978***	-0.0186***
	(0.0377)	(0.0072)
Greenspace access and quality		
Access all greenspace	0.1471***	0.0280***
	(0.0364)	(0.0069)
Satisfied with greenspace	0.2004***	0.0382***
	(0.0511)	(0.0097)
Other neighbourhood characteristics		
Deprivation index	-0.0225***	-0.0043***
	(0.0067)	(0.0013)
Too far from work	-0.2009**	-0.0383**
	(0.0814)	(0.0155)
Too far from other amenities	-0.1858**	-0.0354**
	(0.0881)	(0.0168)
Noise problems	-0.1534***	-0.0292***
	(0.0513)	(0.0098)
Air pollution problems	0.0199	0.0038

	(0.0886)	(0.0169)
Access to facilities	0.0717	0.0137
	(0.0675)	(0.0129)
Condition of facilities	0.3787***	0.0722***
	(0.0525)	(0.0100)
Access to public transport	-0.0088	-0.0017
	(0.0562)	(0.0107)
Satisfaction with public transport	0.0348	0.0066
	(0.0527)	(0.0101)
Satisfaction with council services	0.1771***	0.0337***
	(0.0379)	(0.0072)
Access to water bodies	0.0478	0.0091
	(0.0472)	(0.0090)
Satisfaction with state of water bodies	0.0892**	0.0170**
	(0.0401)	(0.0076)
Summary statistics		
Number of observations	15118	15118
Pseudo R^2	0.0848	0.0848

*** significant at the 1% level; ** significant at the 5% level; * significant at the 10% level.

Other dummy variables employed include: secondary urban; minor urban area; rural area; regional dummy variables; year dummy variable; never want or need to go to greenspaces; have not been to any of the greenspaces; public transport not available in area; does not use public transport for other reasons.

Robust standard errors are reported for coefficient estimates. Unconditional standard errors are reported for marginal effects estimates. Marginal effects are interpreted as the probability of reporting being very satisfied with one's life (a life satisfaction score of 5).