The Influence of Place Attachment on Plans to Move

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1. Introduction

One of the most enduring generalisations in mobility research is that people's plans to change their usual residence are inversely related to how attached they are to where they currently live.[1] This evidence has been used as a rationale for slowing population turnover, especially in relatively deprived residential areas.[2] What this paper shows is that the relationship between attachment and plans to move, while statistically identifiable, is also highly sensitive, not only to the particular measure of attachment used but also to the assumptions respondents make about the cost and availability of housing and employment in alternative locations.

The 2005 New Zealand National Attachment Survey used in this paper elicits responses to questions on planned mobility under two conditions: those in which future employment and accommodation constraints remain the responsibility of potential movers and those where they are relieved of such responsibilities. The aim of this study is to assess the impact of the second condition on the respondent's level of attachment and on plans to move.

The primary contribution of this research is being able to show how sensitive the degree of attachment and stated plans to move are to search constraints. I find that search constraints – the effort involved in locating employment and accommodation at another location – have a considerable influence on both the degree of attachment residents express with respect to the current residence *and* their moving intentions. The theoretical importance of this relationship lies in recognising the highly conditional nature of stated levels of attachment and moving intensions. Without knowledge of the search constraints facing respondents it is difficult to know how to interpret either their level of stated attachment, or the conditions which underlie any stated plan to move, or the relationship between the two. The latter is particularly problematic in empirical research given the widespread practice of using attachment as an argument in models of mobility. The practical consequences are also important. The notion that one can promote attachment to the dwelling and community as a way of reducing population turnover ignores the fact that attachment is also heavily influenced by alternatives that are open to the respondent. My results show that the greater the alternative residential opportunities, the weaker tends to be the stated level of attachment. The conclusion I draw is our collective need to find ways of estimating the constraints individuals face in sourcing employment and accommodation in alternative locations. Only then can we gauge an independent level of attachment and a more robust predictor of moving intentions.

The paper is in ten short sections. The second to follow summarises the literature on the relationship between plans to move, attachment and levels of areal deprivation. Section 3 introduces the data from the 2005 National Attachment Survey. Section 4 estimates a simple bivariate model relating planned mobility to levels of attachment and then section 5 reports the effect of relaxing the requirements for finding a job and of accommodation in alternative locations. Section 6 asks whether relaxing these same

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[1] Gordon and Molho (1995).
[2] Page (1993), Drukker et al. (2005), Power and Tunstall (1995).

constraints alters the level of attachment to existing residential areas and section 7 considers the impact of the socio-economic characteristics of the area. Section 8 discusses additional dimensions of attachment and section 9 introduces the controls used in the statistical models. The argument and the main findings are summarised in section 10.

2. Literature

There are several ways of viewing the movement decision. Those in most widespread use are based on the "difference in the expected lifetime utility of moving and staying in the current residence" in relationship to "the expected transaction costs of moving".[3] The standard model, therefore, is one in which the move itself is some function of the discounted present utility of staying versus the discounted present expected utility of living elsewhere, less the costs involved in undertaking the move.[4]

When modelling the decision to move local factors are often isolated from the range of options and costs that actually apply to participants. For example, it has been argued that, "If people have the wish to leave their neighbourhood this can be expected to be a direct response to deficits in the residential environment, without people taking their resources and restrictions into account".[5] This rationale is then used to model mobility primarily as a function of residential satisfaction and attachment. The implication of such a design is that opportunities elsewhere can largely be ignored since they are assumed to be captured by the satisfaction and/or attachment measures. The New Zealand experience I document here suggests that the relationship between stated attachment, the availability of employment and accommodation in alternative locations and the plans to move are intimately interrelated to the point where none can be treated in isolation.

Not only are alternative residences elsewhere in geographically but they can also be elsewhere in time, a feature which compounds the difficulty in actually measuring the discounted returns of living elsewhere and the associated costs of moving. We know little about how push and pull factors are compared by residents when formulating their plans to move nor do we know the relative importance of the changes that take place both within and outside the respondents' decision making time frame. Kan makes this last point quite clearly: "By concentrating on the propensity to move or duration of stay, residential mobility is treated as a 'one shot' response to stimuli. Actually, residential mobility may be a lengthy process involving continuous decision making," largely because it requires a whole range of adjustments usually to more than one member of the household.[6] To complicate matters, there is also a great deal of

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[3] Kan (1999:76).
[4] Studies of actual mobility and the plan to move can have quite different objectives. Some focus on those factors which actually cause people to move while others focus on the plan itself and the strength of the intention rather than the act of moving (Boehm (1981), Henderson and Ioannides (1987), Henderson and Ioannides (1989), Ioannides and Kan (1996), Kiel (1994), Pickles and Davies (1985), Van Ham and Feijten (2008)).
[5] Van Ham and Feijten (2008:1152).
[6] Kan (1999:73).

unknown error around the standard model, a feature that led Tunali to model migration insightfully as a lottery.[7]

A great deal of attention in the migration literature is now being paid to the role of uncertainty and associated (lack of) information surrounding the decision to move.[8] The lottery model systematises the chance elements and their payoffs. Satisficing behaviours – being content with the adequate even if suboptimal[9] – use rules of thumb and short hand guides to minimize risk and cut the costs of potentially expensive information searches. Each of these strategies testify to the problem of making major decisions within fixed time frames with information of unknown accuracy. Under these circumstances any reduction in risk, and the provision of more accurate information is likely to clarify the movement intention one way or the other.

It has long been observed how people typically undertake moves on the basis of very little information. Over 30 years ago for example, Lansing and Mueller noted how:

> *"Only a minority of moves involve active consideration of multiple sites and fewer still are preceded by actual evaluation via trips to the proposed destination. Much knowledge used in the evaluation of alternative community locations is acquired second hand from friends or relatives, or drawn from a set of pre-existing values about the characteristics of broad types of communities. Some alternative choices may [even] be based on the broad set of societal assumptions about the community ambience associated with sites of a certain size and location".*[10]

In practice, as Roseman has observed, "Large numbers of migrants are drawing upon previously-established place ties for information input to the decision and/or responding to them as place attributes. Partly as a result of this process, most migrants do not search among several alternative destinations".[11] Partly in response to this observed behaviour the alternative set of accommodation and job opportunities facing potential movers is typically left unspecified in models of planned and realised mobility. [12]

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[7] Tunali (2000).

[8] Khwaja (2002), Lu (1999).

[9] Simon (1957).

[10] Lansing and Mueller (1967:210). There are many examples. The above cite Gustavus and Brown, for example, who found with respect to migrants to Columbus, Ohio that knowledge of a second possible destination was scant (Gustavus and Brown (1977)).

[11] Roseman (1983:311). On the relative importance of the above by migrant type, see Kau and Sirmans (1976). For the need to recognise limitations of choice sets see Smith and Slater (1981). Respondents to the National Attachment Survey were asked if they had links to the place before they moved, which if present indicates some prior knowledge. Also those who moved a very short distance would be familiar with the area. The general point about information therefore applies to increasingly distant and infrequently visited destinations.

[12] De Jong (1977).

Identifying alternatives or intervening opportunities in migration studies is difficult both for the modeller and for those actually wanting to move.[13] The very uncertainty of being able to find suitable housing and employment elsewhere inhibits many potential movers and fosters greater stability. This is particularly true for those facing relatively weak demand for their (often unskilled) labour.[14]

In short, it is because opportunities and costs of alternative destinations are so poorly understood that they are rarely. As a result many models of migration simply omit a term that might otherwise capture net returns to moving, arguing, as Van Ham and Feitjen have done, that the expected utility of living elsewhere can be more easily measured simply by capturing residential (dis)satisfaction.

Notwithstanding the widespread use of residential satisfaction as an argument in the moving equation, actually knowing alternative choice sets may add valuable information if it can be measured. Heaton et al., for example, take residents' preferences about alternative settlements as a broad indication of preferences. They define 'preference status' as the degree of difference generated by preferred and present residence (according to size-classes of settlement in their case) and their results show a "strong association between preference status and the expectation of moving remains when satisfaction is controlled".[15] Bach and Smith in turn suggest there may be a unique probability of movement for each of four groups formed from the cross-tabulation of satisfaction and planning to move.[16]

The approach I take below is somewhat different. I relate plans to move to residential satisfaction but then test the sensitivity of this relationship to suggested changes in job and accommodation constraints faced by respondents. The results vary over people living in places where attachment is high and where attachment tends to be low. Such a research design is possible because of the particular structure and questionnaire content of the National Attachment Survey.

3. The National Attachment Survey

The New Zealand National Attachment Survey is a cross-sectional survey designed to capture the respondents mobility experience and their mobility intentions, as well as their level of attachment to place of residence. A range of control variables detail attributes of respondents, their locations and the reasons they settled at their current address.

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[13] Lee (1966:53).

[14] Moore (1986).

[15] Heaton et al. (1979:571). In the matrix formed by the cross-tabulation of the two, those authors find that it is those *off* the main diagonal who are more likely to move. Heaton et al. then constructs a log-linear model that give them the odds "of intending to move for various combinations of current and preferred residence" (Heaton et al., 1979:569). While the discrepancy per se has no effect, the propensity to move, being dissatisfied and preferring to live in a different size-class did increase the likelihood of moving substantially. Heaton et al. then asks whether the pattern of residential preferences allows them "to say with any confidence what combination of locations will be chosen as destinations for these migrants?" (p.571) and their appeal to evidence of counter-urbanisation suggest it does.

[16] Bach and Smith (1977:165).

The Survey was assembled using attachment questions previously asked in surveys administered in Australia, the United States and the United Kingdom, the aim being to generate a broad picture of individuals' past and intended mobility, and their attachment to their residential location. These are secured by recording respondents' attitudes *to* as well as their behaviour *within* the local community.

The host organisation for this research, the Centre for Research, Evaluation and Social Assessment (CRESA), contracted the telephone interviews of the Attachment Survey to National Research Bureau Ltd (NRB) in early 2005. Stratification was done in proportion to the population within each Regional Council area resulting in a representative distribution of respondents across urban and rural New Zealand (see Figure 1 in Schroder, 2008). A total of 1,001 individuals above the age of 18 were selected at random using the national phone directories. No weighting was used.

Upon phone contact with a member of the household the interviewer explained they were undertaking a survey **"to get a picture of how people felt about where they live"**. The interviewer then asked to speak to the male/female or equal main head of household normally living in the house who was at least 18 years or over. The anonymity of the response was then assured. The first formal question established whether the respondent lived in a city, town or rural area and the second asked the name of the area where they lived. For city dwellers this was **"the name of the suburb where you now live"** (Q6). All further questions referred to the specific rural area, town or suburb: **"Why did you move to…?"** and all attachment questions referred to the same area. The externally acquired census data, the deprivation index and the settlement typology were linked to the respondents' postal address using concordance files.

4. A Simple Model of Planned Mobility

Exploration of the sample begins by specifying a very simple relationship between the respondent's plans to move and their levels of residential attachment as represented in Equation 1:

(1) $\quad PM_i = \alpha + \beta_i A + \varepsilon_i$ $\qquad\qquad\qquad$ i= 1, 2, …, 1,001

The probability of the ith respondent's planned movement (PM) takes one of three values in response to the question, **"Are you planning to move away from [the area] in the next year?"**[17] (Q24a): the vast majority (83.9 percent) said No and about half of the remainder said Yes (8.7 percent) and the other half were Not Sure (7.4 percent).

The argument on the right hand side of Equation 1 refers to level of attachment as synthesised from returns to a set of specific questions detailed in Table 1. The analysis

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[17] The categorical way this question was asked left no chance for the respondent to express any degree of uncertainty surrounding their response. McHugh by comparison offered respondents a scale ranging from extremely unlikely to extremely likely (McHugh, 1984). Adding a certainty scale may have helped get around the tendency documented by Kan for planned moves to fall through. One would expect for example that those *extremely* likely to move would be noticeably more likely to fulfil that expectation.

begins by employing a single measure, Sentimental Attachment (f1_sent), which is the first principal component extracted from a factor analysis of 23 separate questions designed to tap different ways residents engage with their communities. The questions and results of the principal components analysis are given in Tables 1 and 2. Other dimensions of attachment are introduced later in the paper.

Table 1: Attitudinal and behavioural attachment questions ordered by response type

No.	Question	No cases	Response rate	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Total
				%	%	%	%	%	%
47	I would recommend this as a place to live	999	99.8	0.6	3.1	3.6	58.4	34.3	100
48	Local leaders are doing a good job	924	92.3	4.0	10.0	22.9	55.2	7.9	100
49	I feel safe here	1000	99.9	0.9	3.4	4.1	67.3	24.3	100
50	I have the opportunity to have a real say on local issues that are important to me	955	95.4	5.1	10.3	20.0	57.5	7.1	100
51	People here would help me out in an emergency	976	97.5	0.7	2.1	3.8	62.8	30.6	100
52	There is a strong community spirit here	974	97.3	1.8	7.2	11.9	53.0	26.2	100
53	I am satisfied with the job and business opportunities here	936	93.5	4.0	10.2	21.1	51.5	13.4	100
54	I would be prepared to help out with a community project	976	97.5	1.7	6.7	11.9	65.5	14.2	100
55	I am satisfied with health services here	973	97.2	5.3	12.1	10.0	59.5	13.1	100
56	I am interested in what goes on in this area	1000	99.9	0.4	2.5	4.9	67.8	24.4	100
57	Education services are satisfactory here	890	88.9	3.0	7.2	11.8	58.2	19.8	100
				Very pleased to leave	Quite pleased to leave	Neither pleased nor sorry to leave	Quite sorry to leave	Very sorry to leave	
58	How would you feel if you had to move away?	1001	100.0	1.9	3.6	20.9	36.5	37.2	100
	In the last month how many times did you			Not applicable	No times	1-3 times	4 or more		
109	Meet up with or visit with such friends?	1001	100.0	12.6	2.9	22.8	61.7		100
110	Talk on the phone or cellphone, text message or email these friends?	1001	100.0	12.6	5.7	17.9	63.8		100
112	Meet up with or visit with these relatives?	1001	100.0	60.6	1.6	7.4	30.4		100
113	Talk on the phone or cellphone, text message or email these relatives	1001	100.0	60.6	2.0	7.7	29.7		100
				No	Yes				
59	Do you feel settled or 'at home' [in this area]	987	98.6	3.9	96.2				100
105	Do you belong to a community organisation, club or group in this area?	999	99.8	51.4	48.7				100
106	In the past year, did you give money to any local community organisation?	977	97.6	37.1	63.0				100
107	Are you involved in any local voluntary work in the area?	999	99.8	70.6	29.4				100
108	Do you have any friends who live in the area?	1001	100.0	12.6	87.4				100
111	Do you have relatives who live in the area?	1001	100.0	60.6	39.4				100
114	Have you spoken with a neighbour in the last week?	1001	100.0	15.7	84.3				100
115	In the last month, have you been to church in the area?	1000	99.9	79.5	20.5				100
116	In the last month, have you been to a Marae in the area?	1001	100.0	96.9	3.1				100

Source: National Attachment Survey, 2005

The independent variable, Sentimental Attachment, is a normally distributed set of standard scores with a mean of close to 0 and a standard deviation of close to 1. The other four variables identified in Table 2 are labelled Participation, Evaluation, Friends, and Relatives and are incorporated into the model later in the paper.[18]

Table 2: Rotated varimax factor loadings for the five factors from the 23 attachment variables

No.	Question	Sentiment	Friends	Relatives	Participation	Evaluation
1	2	3	4	5	6	7
47	I would recommend this as a place to live	0.544*	0.019	-0.003	-0.013	0.133
48	Local leaders are doing a good job	0.268	0.022	0.012	0.009	0.726*
49	I feel safe here	0.647*	-0.012	-0.026	-0.011	0.198
50	I have the opportunity to have a real say on local issues that are important to me	0.304	0.023	-0.052	0.128	0.671*
51	People here would help me out in an emergency	0.697*	0.177	0.012	0.041	0.039
52	There is a strong sense of community spirit here	0.680*	0.156	0.017	0.048	0.180
53	I am satisfied with the job and business opportunities for me here	0.148	-0.125	0.021	-0.121	0.116
54	I would be prepared to help out with a community project	0.358	0.038	-0.013	0.242	0.090
55	I am satisfied with health services here	-0.254	0.053	0.005	-0.051	0.540*
56	I am interested in what goes on in this area	0.424*	0.076	-0.027	0.233	0.007
57	Education services are satisfactory here	-0.066	-0.018	-0.017	-0.006	0.433*
58	How would you feel if you had to move away?	0.338	0.120	0.042	0.104	0.038
	In the last month did you…					
109	Meet up with or visit with such friends?	0.070	0.927*	0.079	0.073	0.012
110	Talk on the phone or cellphone, text message or email these friends?	0.058	0.932*	0.099	0.095	0.022
112	Meet up with or visit with these relatives?	-0.005	0.075	0.986*	0.025	-0.003
113	Talk on the phone or cellphone, text message or email these relatives	0.004	0.073	0.987*	0.026	-0.008
59	Do you feel settled or 'at home' [in this area]	0.129	0.072	-0.019	0.099	-0.010
105	Do you belong to a community organisation, club or group in this area?	0.071	0.194	0.033	0.738*	0.016
106	In the past year, did you give money to any local community organisation, located or working in the area?	0.073	0.090	0.072	0.613*	-0.013
107	Are you involved in any local voluntary work in the area?	0.074	0.130	-0.023	0.641*	-0.039
114	Have you spoken with a neighbour in the last week?	0.078	0.334	-0.025	-0.015	-0.113
115	In the last month, have you been to church in the area?	-0.116	0.018	0.127	0.593*	0.220
116	In the last month, have you been to a Marae in the area?	-0.065	0.012	0.031	0.084	0.004

* p = 0.05
Source: National Attachment Survey 2005

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[18] For further details see Schroder (2008).

The dependent variable of interest is based on three possible responses to the plans to move question: Yes, No or Unsure. An initial concern was whether these three options were sufficiently distinct to be modelled as alternatives. Testing 'not sure' against the base for this single covariate model reveals a chi-square of 5.10 which is significant at p=0.024. By comparison the Yes versus No yields a chi-square of 15.83 and probability of 0.0001. Even though the statistical criterion for maintaining the three choice set is not as strong as the Yes versus No dichotomy, uncertainty about moving is of substantive interest in itself and therefore I retain the three responses and apply the *multi*nomial rather than binomial version of the model.

The three choice, multinomial model is a generalisation of the binary logit model to three nominal categories. In general terms:

$$(2) \qquad \Pr(y_i = j) = e^{(X_i \beta_j)} / \left(1 + \sum_{j}^{J} e^{(X_i \beta_j)} \right)$$

and

$$(3) \qquad \Pr(y_i = 0) = 1 / \left(1 + \sum_{j}^{J} e^{(X_i \beta_j)} \right)$$

where, for the ith respondent, y_i is the observed response and X_i is a vector of explanatory variable(s). The unknown parameters β_j are typically estimated by maximum likelihood.[19]

When the above equations are estimated from the National Attachment Survey we realise the coefficients for the respective logits and exponentiate them to produce the 'relative risk ratios' (e^{β}), the equivalent to the odds ratios in the binary case. Following Brant (1996), I substitute the estimated parameters into Equations 2 and 3 above to generate expected probabilities of the respective events relative to the base (set as No throughout). These are the relative risk ratios in the multinomial case.

Results

The estimated coefficients in Table 3 confirm that the log odds in favour both of planning to move and being unsure about doing so *declines* against the base (not planning to move) with successive levels of Sentimental Attachment. The logit of a positive plan to move ($X_i \beta_j$ in equation 1) falls by -0.418 (and the Uncertainty rises by

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[19] In terms of estimating a logit or probit model there are some advantages in using the logit model such as the ability to easily generate odds ratios. The conventional argument in favour of probit is that the normal distribution captures rarer or unusual events more accurately and there could be a case for its application to our data on moving especially in the short term where the probabilities are low to employ that argument here. Rerunning a number of such models showed very similar results to those generated by the logit model and therefore only the logit results will be presented here.

0.265) for every unit (standard score) increase in the respondent's level of Sentimental Attachment.

Table 3: Estimated coefficients and relative risk ratios for the uncontrolled multinomial logistic regression model of plans to move on Sentimental Attachment to area of residence

a. Coefficients

	Coef.	Std. Err.	z	P > |z|	[95% Cont. Interval]	
Yes						
fl_sent	-0.418	0.105	-3.98	0.000	-0.624	-0.212
_cons	-2.332	0.119	-19.65	0.000	-2.564	-2.099
Not sure						
fl_sent	-0.266	0.118	-2.26	0.024	-0.496	-0.035
_cons	-2.448	-0.123	-19.83	0.000	-2.690	-2.206

b. Relative risk ratio (RRR)

	RRR	Std. Err.	z	P > |z|	[95% Cont. Interval]	
Yes						
fl_sent	0.658	0.069	-3.98	0.000	0.536	0.809
Not sure						
fl_sent	0.767	0.090	-2.26	0.024	0.609	0.965

Log likelihood   =   -543.28317   Number of obs   =   1001
LR chi2(2)   =   18.58   Prob > chi2   =
    0.0001
Pseudo R2   =   0.0168

Source: National Attachment Survey, 2005

The corresponding relative risk ratios in Part b of Table 3 indicate that the probability of voicing plans to move falls by 0.658 for every one unit increase in the level of Sentimental Attachment. The sign is consistent with the theory and the literature.

The chances of being Unsure about moving are slightly less responsive, the chances falling by 1-0.767 or 23.3 percent for every unit increase in Sentimental Attachment. The result also make sense on substantive grounds, that is, we would expect uncertainty about moving not to decline with Sentimental Attachment as fast as positive plans to move.

The two variable model of Equation 2 predicts a range of probabilities around the means as shown in Figure 1. The predictions are fairly broadly distributed for both the Yes and No responses as one might expect with only one right hand side argument.

Figure 1 Predicted plans of moving on basis of single covariate, Sentimental Attachment

a.   Predicted probability of Planning to move
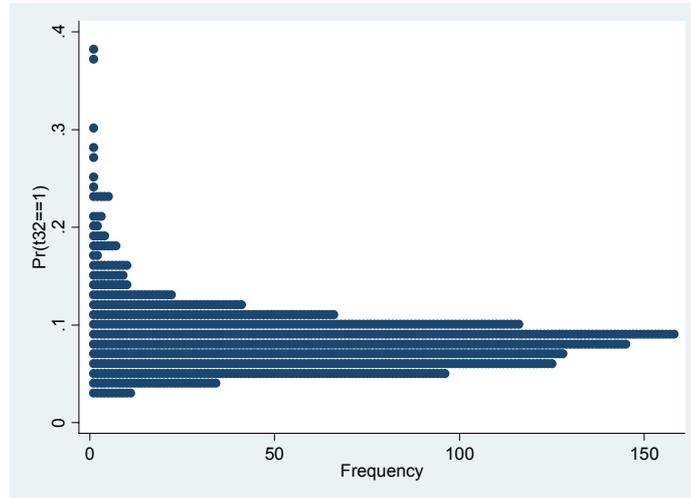
b.   Predicted probability of Not moving
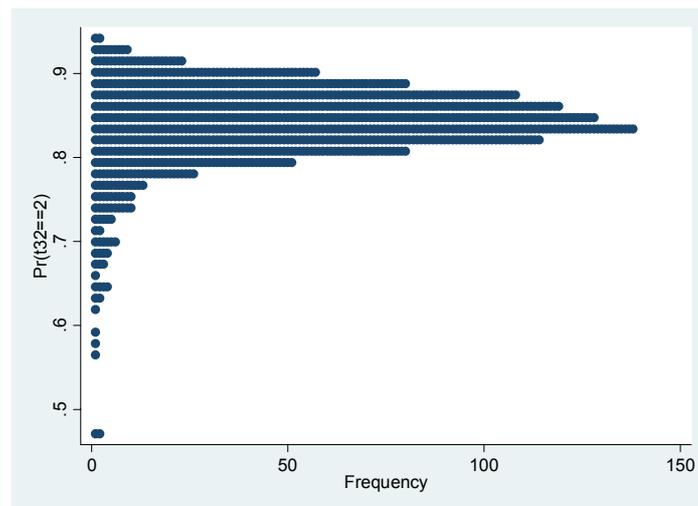
Source: National Attachment Survey, 2005

If we plot these estimated probabilities of moving across the Sentimental Attachment domain and fit a median spline through the median predictions as in Figure 2 we can see how the probability of Not Planning to move (the top line) and Planning to move (the middle line) changes as Sentimental Attachment increases. As levels of attachment increase (in cross-section) the likelihood of not moving (staying) increases and plans to leave decrease, albeit at a decreasing rates in both cases.

Figure 2: The post-estimated probability of plans to move for different levels of Sentimental Attachment, New Zealand, 2005
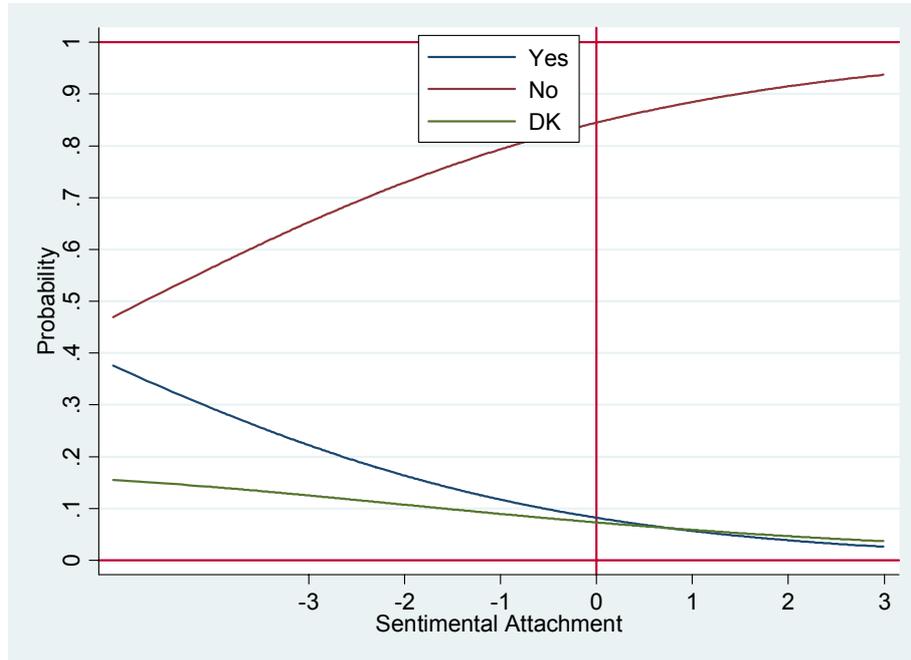
Source: National Attachment Survey, 2005

At very high levels of attachment the chances of saying No to moving rise to over 90 percent and the chances of saying Yes fall to well under 10 percent. The two are not simply inverses of each other for the third option, the level of uncertainty about moving (the bottom line in Figure 2) declines the more sentimentally attached respondents are to their place of residence.

The above introduction has done no more than identify the negative relationship between the plan to move and Sentimental Attachment, a relationship already thoroughly demonstrated in the literature, although not to my knowledge in New Zealand. What I now want to do is to explore the way in which assumptions about available employment and accommodation in an alternative location might modify these relationships.

5. The Effect on Attachment of Relaxing Constraints on Movement

To what extent does Sentimental Attachment constrain potential mobility when the search for employment and accommodation in alternative locations is no longer required? If such alternatives and their cost were irrelevant as far as expressed attachment is concerned, the removal of either one should not alter the relationship between residential satisfaction and the intention to move.

Another way of posing the same question is to recognise that the consumption of any good is a function of the relative price of alternatives and if the price of alternatives is lowered the chances of switching to the alternative rises. In our case the question is whether increasing the cost of the alternative actually raises or lowers the level of

'attachment' to the place of residence and whether plans to move are simultaneously raised.

I secure these scenarios by analysing responses to the question, **"Are you planning to move away from [the area] in the next year?"** And, later in the survey: **"Would you consider moving away from [the area] to take up a job that you wanted?"** (Q25) and **"Would you consider moving away from [the area] to take up accommodation that you wanted?"** (Q26). The last two questions have the effect of asking the respondent to rethink the decision to move under changed conditions. Both questions hypothetically remove constraints on alternative employment and then on alternative housing. Respondents then reappraise their plans to move with these two search constraints lifted.

Before confronting the evidence we need to acknowledge the presence of at least three other differences between question 24a, **"Are you planning to move away from [the area] in the next year?"** and questions 25 and 26 in the last paragraph. Firstly, the word 'plan' has become 'consider', the one year time constraint has been lifted and left up to the respondent who now has the freedom to move *any* time in the future. These changes in wording are likely to have some influence. 'Planning to move' implies action whereas 'considering a move' is less definite and people may be more likely to affirm the possibility of moving simply because it is vague. We also know that granting respondents more time to move raises the chance that they will move.[20]

Secondly, questions 25 and 26 are not only offering a job and accommodation *but* a job and accommodation that respondents *want*. The third but minor change includes replacing 'Don't Know' by 'Not Sure'. The collective effect of these three differences in the standard and hypothetical questions is likely to increase the respondents' willingness to move and therefore our estimated effects of removing constraints is likely to be biased both towards moving and possibly reducing attachment.

On substantive grounds, removing the search costs for a job and accommodation at another location should have several effects. Firstly, cost reductions should reduce the proportion of respondents who say they are uncertain about moving. Secondly, if attachment to place is partly a matter of comparing the present residential package relative to alternatives, then relaxing housing and employment constraints should *also* reduce the relative attractiveness of the existing area.

Empirically then, does removing search costs actually increase people's plans to move and lower their uncertainty about moving? The answer is a clear yes. Whereas only 8.7 percent of respondents originally said they planned to move within the year, when the job search (and the time constraint) was lifted, four times as many (36.9 percent) said they would consider moving. The corresponding change in proportions following a lifting of the accommodation constraint was 8.7 compared to 37.5 percent. On the other hand, the proportion who said they were unsure about moving hardly changes at all when constraints were removed (from 7.4 to 7.1 percent).

While the marked jump in potential moves that accompany the removal of job constraints is instructive, a much more informative set of changes appear when responses to the two questions are cross-tabulated. As the body of Panel a in Table 4

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[20] Kan (1999).

shows, only about half the respondents gave the same answer before and after the job constraints were lifted.[21] Panel b of Table 4 shows how a third of all negative *and* positive plans to move switched (32.0 and 32.2) once the job constraint was lifted, and over half of those Not Sure switched to Yes (56.8) and over a third (35.1) switched to No.

Does being employed affect plans to move following the relaxation of the job search constraint? The answer is also a clear Yes. The probability of the employed switching their planned movement response from No to Yes when faced with the availability of a job elsewhere was p=0.432 compared to only p=0.129 in the case of those not employed. The propensity to switch responses in this way is even greater among the small group of 44 respondents who said they were *searching* for work.[22] Nearly half (p = 0.472) who said they had no plans to move (n=36) would consider moving if a job they wanted was available.

Only two thirds of the sample were in either full-time or part-time work, (65.5 %) and therefore employment issues were not central to all potential migrants (the retired and those who are students for example), although many would be indirectly affected as dependents. This broader spectrum of the population is tapped by examining what happens when the *accommodation* constraint is relaxed. The results in Panel c of Table 4 shows that the same shift in moving plans occurs here as well, especially from not moving to moving (No to Yes). Thirty percent of those who said they had not planned to move next year changed their minds once the accommodation constraint was relaxed. A further six percent now said they Didn't Know. More dramatically, almost 73 percent of those who were not sure about moving subsequently switched to being sure once accommodation elsewhere was made available.

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[21] I get this result by summing over the main diagonal and dividing by the grand total: (58+507 + 6)/1,001.

[22] This result is consistent with the greater mobility of the unemployed I document elsewhere using the Dynamics of Migration and Motivation Survey (Morrison et al. (2009)).

Table 4: Responses to unconditional and conditional future movement questions

Job search constraint

    a.   Frequencies

Planning to move away from area in the next year	Consider moving away from area to take up job they wanted			Total
	Yes	No	Don't know	
Yes	**58**	28	1	87
No	269	**507**	64	840
Not sure	42	26	**6**	74
Total	369	561	71	1001

    b.   Row percentages

Planning to move away from area in the next year	Consider moving away from area to take up job they wanted			Total
	Yes	No	Don't know	
Yes	**66.67**	32.18	1.15	100
No	32.02	**60.36**	7.62	100
Not sure	56.76	35.14	**8.11**	100
Total	36.86	56.04	7.09	100

Accommodation search constraint

    c.   Frequencies

Plan to move next year	Consider moving away from area to take up accommodation wanted			Total
	Yes	No	Don't know	
Yes	**69**	16	2	87
No	252	**537**	51	840
Not sure	54	15	**5**	74
Total	375	568	58	1001

    d.   Row percentages

Plan to move next year	Consider moving away from area to take up accommodation wanted			Total
	Yes	No	Don't know	
Yes	**79.31**	18.39	2.30	100
No	30.00	**63.93**	6.07	100
Not sure	72.97	20.27	**6.76**	100
Total	37.46	56.74	5.79	100

Source: National Attachment Survey, 2005

In summary, our expectation that reducing the uncertainty about employment in a desired alternative location would increase the likelihood of mobility was confirmed.

None of this is surprising, but it does raise the question as to how much the levels of reported attachment also changes when job *and* accommodation constraints are lifted. If attachment and propensity to move are positively related with the causation moving both ways then we would expect that removing the constraints on settlement elsewhere would *also* influence the way people respond to questions about their levels of attachment to their current residential area.

6. The Influence of Relaxing Job and Accommodation Constraints on Attachment

When the job constraint is relaxed, the influence of Sentimental Attachment on the log of the odds of moving is reduced from a significant -0.418 to an insignificant 0.091 and the odds of moving rises from well under one (0.658) to almost one (0.913); compare Panel a of Table 5 with Panel a of Table 3.[23] Therefore, removing job constraints, together with the change in wording, clearly affects the way attachment modifies intentions to move. Attachment to place ceases to be such an influential constraint when the potential mover no longer has to worry about getting a job.

Does the same result apply when the accommodation constraint is removed? The answer is also yes; the relative risk ratio falls to 22.2 percent (1-0.778) in Panel a of Table 5, compared to 34.2 percent with the constraint in place, Panel b of Table 3. Uncertainty levels rise correspondingly but in this accommodation case Sentimental Attachment still acts as a statistically significant constraint on planning to move.

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[23] When the job constraints are relaxed, our regression of Sentimental Attachment on plans to move results also in a marked rise in the intercept from -0.426 > -2.332 for those responding Yes.

Table 5: The reduced influence of Sentimental Attachment on planned movement when jobs and accommodation constraints are removed, multinomial regression logistic

a. Removing job constraints

	Coef.	Std. Err.	z	P >	z		[95% Cont. Interval]	
Yes						
f1_sent	-0.090	0.067	-1.36	0.175	-0.222	0.040
_cons	-0.422	0.067	-6.28	0.000	-0.553	-0.290
Don't know						
f1_sent	0.260	0.133	1.94	0.052	-0.002	0.520
_cons	-2.103	0.130	-16.17	0.000	-2.358	-1.848

Relative risk ratios

	RRR	Std. Err.	z	P >	z		[95% Cont. Interval]	
Yes						
f1_sent	0.913	0.061	-1.36	0.175	0.801	1.041
Don't know						
f1_sent	1.296	0.173	1.94	0.052	0.998	1.682

Log likelihood   =   -877.39385   Number of obs   =   1001
LR chi2(2)   =   7.12   Prob > chi2   =
     0.0284
Pseudo R2   =   0.0040

Source: National Attachment Survey, 2005

Removing accommodation constraints

	Coef.	Std. Err.	z	P > | z |	[95% Cont. Interval]	
Yes						
f1_sent	-0.251	0.068	-3.69	0.000	-0.384	-0.117
_cons	-0.426	0.067	-6.34	0.000	-0.556	-0.294
Don't know						
f1_sent	0.301	0.148	2.03	0.042	0.010	0.592
_cons	-2.346	0.146	-16.04	0.000	-2.633	-2.059

Relative risk ratios

	RRR	Std. Err.	z	P > | z |	[95% Cont. Interval]	
Yes						
f1_sent	0.778	0.053	-3.69	0.000	0.681	0.889
Don't know						
f1_sent	1.352	0.201	2.03	0.042	1.010	1.808

Log likelihood	=	-844.37446	Number of obs	=	1001
LR chi2(2)	=	21.72	Prob > chi2	=	
		0.0000			
Pseudo R2	=	0.0127			

Source: National Attachment Survey, 2005

Plans to move are affected by levels of attachment, however attachment appears to be affected by the presence of alternative residential options. Of particular interest from a policy perspective therefore is the possibility that such reactions might vary across residents living in areas with different socio-economic characteristics as measured through an index of deprivation.

7. The Impact of Area Deprivation Levels on Plans to Move

Given the apparent influence that job and accommodation constraints have on people's intentions of moving, it is of particular interest to see if responses vary across areas with different levels of deprivation. The argument developed in another analysis from this survey[24] is that levels of attachment in deprived areas are low (other things equal) implying that a relatively large proportion would prefer to leave but are unable to do so in practice.

It turns out that plans to move as such are not significantly different across the three residential deprivation categories in Panel a of Table 6 (as judged by the chi-square). However, the plan to leave *does* rise with successively higher levels of deprivation

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[24] Morrison and Schroder (2010).

(from just over 6 to nearly 11 percent), while the plan to stay fall from 86 to 82 percent and the general level of uncertainty falls slightly from 8 to 7 percent. The interesting question under these circumstances is what happens to plans to move in areas of high and low deprivation once jobs and accommodation constraints are lifted.

The impact of relaxing job constraints on plans to move is shown in Panels b i and b ii of Table 6 by level of areal deprivation, firstly for the labour force only and then for the whole population. Relaxing job constraints for those in the labour force substantially raises the chances they will consider moving from areas at all three deprivation levels, from an average of 8.71 to 48.06 percent; those not planning to move drop from 83.88 to 44.48 percent and there is little change in uncertainty. Somewhat surprisingly, the differences across the area deprivation categories when job constraints are lifted are not marked at all.

Table 6, Panel c, shows what happens to responses when just the accommodation constraint is relaxed, that is when movement is constrained only by the need to find employment. A comparison of the distributions in Panels a and c of Table 6 shows a slightly greater switch among those living in high deprivation areas: 10.7 percent had plans to move prior to relaxing accommodation opportunities compared to 43.53 percent afterwards (compared to an 8.71 percent to 37.54 percent shift for the population as a whole). These shifts were also accompanied by a greater shift of respondents from a certain No to a greater uncertainty, in high deprivation areas.

Table 6: Plans to move by Level of Area Unit Deprivation

   a.   Constrained by employment and accommodation options (counts and column percentages)

Plan to move in next year	Deprivation Three Category Classification			
	Low Dep.	Medium Dep.	High Dep.	Total
Yes	18	26	43	87
	6.25	8.41	10.70	8.71
No	247	260	331	838
	85.76	84.14	82.34	83.88
Not sure	23	23	28	74
	7.99	7.44	6.97	7.41
Total	288	309	402	999
	100.00	100.00	100.00	100.00

Pearson chi2(4)   =   4.3291   Pr   =   0.363

   b.   Constrained by accommodation options only

   i. Job constraint lifted, labour force only

Consider moving in next year to take up job wanted	Deprivation Three Category Classification	
		Total

	Low Dep.	Medium Dep.	High Dep.	
Yes	91	108	136	335
	42.72	53.20	48.40	48.06
No	109	83	118	310
	51.17	40.89	41.99	44.48
Don't know	13	12	27	52
	6.10	5.91	9.61	7.46
Total	213	203	281	697
	100.00	100.00	100.00	100.00

Pearson chi2(4)　　=　　8.4284　　　　　　Pr　　=　　0.077

ii. Job constrained lifted from total population

Consider moving in next year to take up job wanted	Deprivation Three Category Classification			Total
	Low Dep.	Medium Dep.	High Dep.	
Yes	97	121	151	369
	33.68	39.16	37.56	36.94
No	173	170	216	559
	60.07	55.02	53.73	55.96
Don't know	18	18	35	71
	6.25	5.83	8.71	7.11
Total	288	309	402	999
	100.0	100.00	100.00	100.00

Pearson chi2(4)　　=　　5.0164　　　　　　Pr　　=　　0.286

c. Constrained by employment only (whole population)

Consider moving in next year to take up accommodation wanted	Deprivation Three Category Classification			Total
	Low Dep	Medium Dep	High Dep	
Yes	94	106	175	375
	32.64	34.30	43.53	37.54
No	181	188	197	566
	62.85	60.84	49.00	56.66
Don't know	13	15	30	58
	4.51	4.85	7.46	5.81
Total	288	309	402	999
	100.0	100.00	100.00	100.00

Pearson chi2(4) = 16.8183   Pr = 0.002

Source: National Attachment Survey 2005

Responses to attachment

Do the resource constraints that apply in areas with relatively high levels of deprivation mean that the relaxing job and accommodation search constraints reduces the influence of attachment on plans to move? The levels of Sentimental Attachment in area characterised by the three levels of deprivation are quite different as Figure 3 shows. The average level of attachment in the high deprivation areas is almost as far below the median as the low deprivation areas are above – about a quarter of a standard score in each case. Mean (median) levels of sentiment in standard scores are 0.29 (0.30), 0.047 (-0.009) and -0.247 (-0.208) in low, medium and high deprivation areas respectively.

Figure 3: The distribution of the Sentimental Attachment variable by level of area deprivation
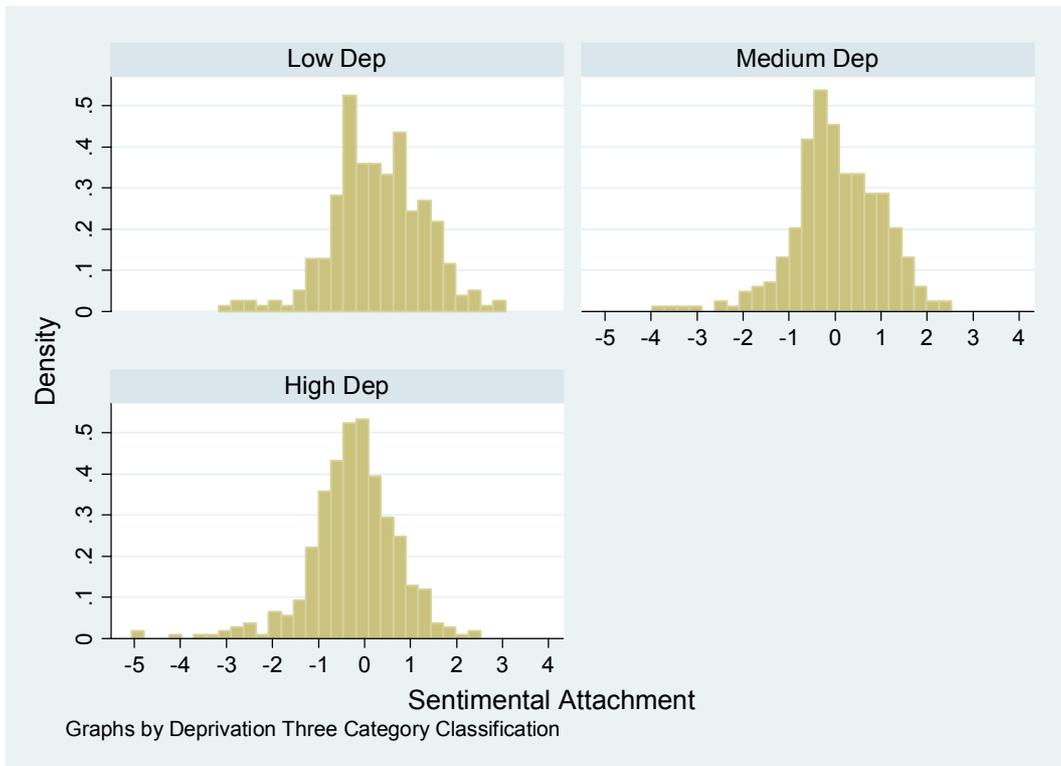
Source: National Attachment Survey, 2005

As Figure 4 shows, the predicted probability of planning to move (the estimated probability of the 'Yes' response) falls with the level of Sentimental Attachment regardless of the level of areal deprivation. However, planning to leave areas with medium and low deprivation is high *only* when Sentimental Attachment is very low. Residents living in very deprived areas not only have *lower* levels of Sentimental Attachment but the attachment that is present has relatively little influence on plans to leave; witness the line that begins above 0.1 (10 percent) in Figure 4 and declines only slightly to just under 0.1 percent as the level of Sentimental Attachment rises.

Finally, in this section we put the last two sets of results together by relaxing the normal constraints on accommodation and then assessing changes in their impact on mobility intentions. When the accommodation search constraint is lifted, those in *high* deprivation areas show the most pronounced wish to leave regardless of their level of Sentimental Attachment, (the top line in Figure 4). Residents in medium deprivation areas show a greater sensitivity to Sentimental Attachment once alternative accommodation is known. Residents living in areas with *low* levels of deprivation are the least likely to consider leaving when the accommodation constraint is lifted (because they are generally less income constrained) but when they do, the influence of Sentimental Attachment drops considerably.

Figure 4: The probability of residents planning to leave their area within the year by levels of Sentimental Attachment in areas exhibiting Low, Medium and High levels of deprivation, New Zealand, 2005
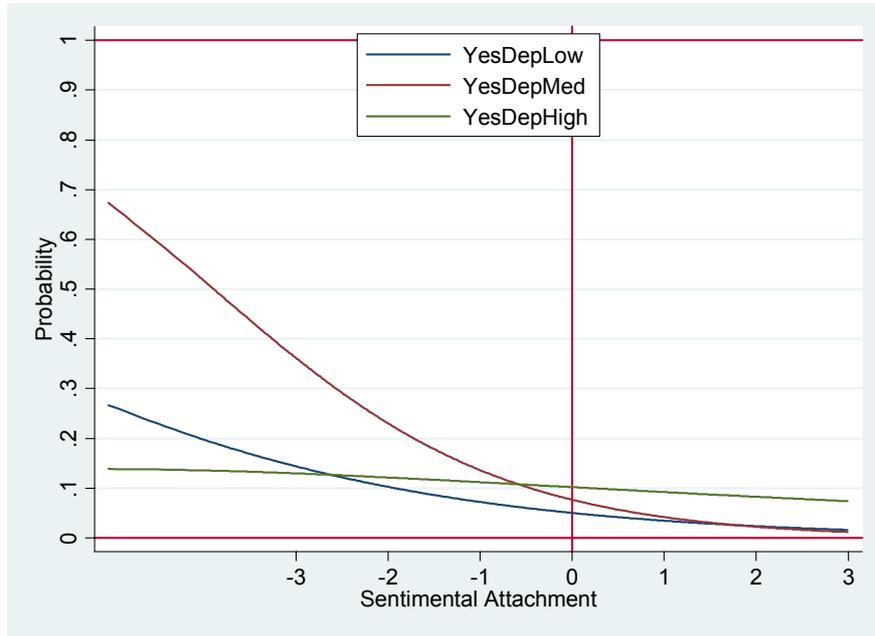
Source: National Attachment Survey, 2005

In summary, I have identified the degree to which the stated intention to move and its relationship to attachment is influenced by the level of deprivation characteristic of the area. Of specific interest has been the degree to which relaxing the need to find alternative accommodation and employment alters people's plans to move. The analysis yields clear answers to both: those in high deprivation areas show relatively low propensities to move under 'ordinary' circumstances despite low levels of attachment. Partly for this reason they are the ones who respond most elastically when accommodation and job search costs are relaxed.

Although instructive, these results only explore the influence of one dimension of attachment, Sentimental Attachment. As I have shown elsewhere, attachment is a multi-dimensional concept and the role of each of these dimensions needs to be considered.[25] I therefore turn to these other dimensions focussing particularly on the relative sensitivity of those living in high deprivation areas.

8. Plans to Move and Additional Dimensions of Attachment

After entering all five derived dimensions of attachment in Table 2 into the model of planned movement (using separate dummy variables for Friends and Relatives), the orthogonal covariate, Sentimental Attachment, continues to restrain plans to move as well as raising its level of uncertainty (see Table 7). However having Friends in the area and the dimension we call Participation both reduce the log likelihood of wanting

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[25] Morrison and Schroder (2010).

to move and raise the level uncertainty about moving.[26] Having Friends in the area reduces the odds of planning to move by almost *two thirds* (1-0.390) compared to just over a third when Sentimentally Attached or simply Participating in the community are present (1-0.64 and 1-0.60 respectively).[27] A positive Evaluation of local services and the presence of Relatives in the area are not statistically significant influences although the signs and magnitudes are consistent with the general direction of attachment effects. As the social networks literature shows, the strength and longevity of blood and kinship ties allows one to maintain contact with relatives over much longer distances than all but the closest of friends,[28] although the nature of the particular relationship also matters.[29]

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[26] See Dawkins (2006). We develop this point in more detail in Morrison and Schroder (2010).

[27] Berlot and Ermisch (2006), Sampson (1988) and Dawkins (2006) all point to the importance of the density of friendships; Berlot by showing how more close friends can discourage mobility and Sampson by showing how attachment is correlated with friendship density (the proportion of people in an area with more than five local friends) and Dawkins by drawing attention to the multidimensional nature of social ties experienced by families with children. Sampson links this to Granovetter's point as cited by Berlot and Ermisch that "when mobility results from network connections, it changes network structure that then feeds back into future mobility patterns" (Granovetter 2005:37). Also see the following earlier discussions by Levy and Waldycki (1973) and Fischer (1982).

[28] Stutz (1973).

[29] Lawton et al. (1994).

Table 7: The influence of various dimensions of attachment on plans to move when accommodation constraints are relaxed. Multinomial logistic regression

a. Coefficients

	Coef.	Std. Err.	z	P > | z |	[95% Cont. Interval]	
Yes						
f1_sent	-0.452*	0.113	-4.01	0.000	-0.672	-0.230
f4_part	-0.503*	0.130	-3.88	0.000	-0.757	-0.248
f5_eval	0.217	0.134	1.63	0.104	-0.044	0.479
FriendsArea	-0.932*	0.286	-3.25	0.001	-1.493	-0.370
RelativeArea	-0.402	0.254	-1.59	0.113	-0.898	0.094
_cons	-1.525	0.262	-5.82	0.000	-2.038	-1.011
Not sure						
f1_sent	-0.262*	0.120	-2.18	0.029	-0.496	-0.026
f4_part	-0.267*	0.130	-2.06	0.040	-0.520	-0.012
f5_eval	0.141	0.135	1.04	0.297	-0.123	0.405
FriendsArea	-1.140*	0.292	-3.91	0.000	-1.711	-0.567
RelativeArea	-0.116	0.260	-0.45	0.655	-0.626	0.393
_cons	-1.490	0.260	-5.72	0.000	-1.999	-0.979

* = P < 0.05

b. Relative risk ratios

	RRR	Std. Err.	z	P > | z |	[95% Cont. Interval]	
Yes						
f1_sent	0.637	0.072	-4.01	0.000	0.510	0.793
f4_part	0.605	0.078	-3.88	0.000	0.468	0.779
f5_eval	1.243	0.166	1.63	0.104	0.956	1.614
FriendsArea	0.394	0.113	-3.25	0.001	0.224	0.690
RelativeArea	0.669	0.170	-1.59	0.113	0.406	1.099
Not sure						
f1_sent	0.770	0.092	-2.18	0.029	0.608	0.973
f4_part	0.766	0.099	-2.06	0.040	0.594	0.987
f5_eval	1.151	0.156	1.04	0.297	0.883	1.500
FriendsArea	0.320	0.093	-3.91	0.000	0.180	0.566
RelativeArea	0.890	0.231	-0.45	0.655	0.534	1.482

Log likelihood = -518.86852   Number of obs = 1001
LR chi2(2) = 67.41   Prob > chi2 = 0.0000
Pseudo R2 = 0.0610

Source: National Attachment Survey, 2005

The influence of the other dimensions of attachment on plans to move fade away when applied to the employed and those searching for work (n=699) as reported in

Table 8. Participation in community activities holds people back from declaring an intention to move as well as expressing an uncertainty in doing so.

Table 8: The influence of various dimensions of attachment on plans to move when job constraints are relaxed. Multinomial logistic regression

a. Coefficients

	Coef.	Std. Err.	z	P > | z |	[95% Cont. Interval]	
Yes						
f1_sent	-0.090	0.079	-1.13	0.258	-0.244	0.065
f4_part	-0.224*	0.082	-2.75	0.006	-0.384	-0.064
f5_eval	-0.017	0.080	-0.21	0.832	-0.173	0.139
FriendsArea	-0.366	0.236	-1.55	0.121	-0.829	0.097
RelativeArea	-0.155	0.166	-0.93	0.351	-0.829	0.170
_cons	0.430	0.221	1.95	0.052	-0.002	0.862
Don't know						
f1_sent	0.180	0.158	1.14	0.255	-0.129	0.489
f4_part	-0.194	0.157	-1.24	0.216	-0.501	0.113
f5_eval	0.007	0.151	0.05	0.963	-0.288	0.302
FriendsArea	0.794	0.625	1.27	0.204	-0.431	2.020
RelativeArea	-0.330	0.320	-1.03	0.303	-0.957	0.297
_cons	-2.439	0.606	-4.02	0.000	-3.626	-1.250

* = P < 0.05

b. Relative risk ratios

	RRR	Std. Err.	z	P > | z |	[95% Cont. Interval]	
Yes						
f1_sent	0.914	0.072	-1.13	0.258	0.782	1.067
f4_part	0.799*	0.065	-2.75	0.006	0.680	0.937
f5_eval	0.983	0.079	-0.21	0.832	0.840	1.149
FriendsArea	0.693	0.164	-1.55	0.121	0.436	1.102
RelativeArea	0.856	0.142	-0.93	0.351	0.618	1.186
Not sure						
f1_sent	1.197	0.189	1.14	0.255	0.878	1.631
f4_part	0.824	0.129	-1.24	0.216	0.605	1.119
f5_eval	1.007	0.152	0.05	0.963	0.749	1.353
FriendsArea	2.213	1.384	1.27	0.204	0.649	7.541
RelativeArea	0.719	0.230	-1.03	0.303	0.383	1.346

Log likelihood	=	-623.19396	Number of obs	=	699
LR chi2(2)	=	19.99	Prob > chi2	=	0.0293
Pseudo R2	=	0.0158			

* = P < 0.05

Source: National Attachment Survey, 2005

From Table 9 we find that once people learn that their accommodation needs elsewhere will be taken care of, they are much more likely to declare an intention to move; the constant in Table 9 rises to 0.259 compared to -1.52 in Table 7. Given the higher proportions declaring movement plans it may be no surprise that various forms of attachment also play a clearer role. All five dimensions continue to constrain plans to move even with the implied accommodation assistance.

Table 9: The influence of various dimensions of attachment on plans to move when accommodation constraints are relaxed. Multinomial logistic regression

a. Coefficients

	Coef.	Std. Err.	z	P >	z		[95% Cont. Interval]	
Yes						
f1_sent	-0.253*	0.070	-3.62	0.000	-0.389	-0.116
f4_part	-0.290*	0.070*	-4.15	0.000	-0.426	-0.152
f5_eval	0.023	0.070	0.32	0.745	-0.114	0.159
FriendsArea	-0.621*	0.200	-3.11	0.002	-1.013	-0.229
RelativeArea	-0.410*	0.142	-2.88	0.004	-0.688	-0.130
_cons	0.259	0.188	1.38	0.167	-0.108	0.626
Don't know						
f1_sent	0.305*	0.151	2.02	0.043	0.009	0.599
f4_part	-0.142	0.141	-1.01	0.312	-0.417	0.133
f5_eval	0.002	0.1356	0.02	0.987	-0.264	0.268
FriendsArea	1.218	0.736	1.65	0.098	-0.224	2.661
RelativeArea	-0.710*	0.302	-2.35	0.019	-1.303	-0.117
_cons	-3.224	0.724	-4.45	0.000	-4.642	-1.805

 * = P < 0.05

b. Relative risk ratios

	RRR	Std. Err.	z	P >	z		[95% Cont. Interval]	
Yes						
f1_sent	0.776578	0.0541751	-3.62	0.000	0.677	0.890
f4_part	0.7486035	0.0522487	-4.15	0.000	0.652	0.858
f5_eval	1.022926	0.0714243	0.32	0.745	0.892	1.172
FriendsArea	0.5372134	0.1073866	-3.11	0.002	0.363	0.794
RelativeArea	0.6637999	0.0945089	-2.88	0.004	0.502	0.877
Not sure						
f1_sent	1.356315	0.2042132	2.02	0.043	1.009	1.821
f4_part	0.8673766	0.1219419	-1.01	0.312	0.658	1.142
f5_eval	1.002199	0.1362797	0.02	0.987	0.767	1.308
FriendsArea	3.38087	2.488946	1.65	0.098	0.798	14.311
RelativeArea	0.4914626	0.1486304	-2.35	0.019	0.271	0.889

Log likelihood	=	-819.42327	Number of obs	=	1001
LR chi2(10)	=	71.62	Prob > chi2	=	0.0000
Pseudo R2	=	0.0419			

Source: National Attachment Survey 2005

Do those different forms of attachment play the same role in areas experiencing different degrees of deprivation?[30]   The evidence *is* certainly consistent with this conclusion: the 43 respondents in highly deprived areas who previously were unable to make up their minds, (Don't Know), were quite clearly those who were otherwise attached. With the accommodation constraint relaxed, not only does the levels of uncertainty fall the number of Don't Knows fall (to 30 respondents – recall Table 6) but the attachment effect disappears among those remaining.   So relaxing the accommodation constraint does weaken the influence of attachment among those living in highly deprived areas.

Lifting the accommodation constraint for those living in *medium* deprived areas not only reduces the number of attachment dimensions that have a statistical influence, but among those left, the odds of planning to move fall considerably (with the relative risk rising from 0.474 to 0.713, and from .579 to 0.725 respectively). At the same time the uncertainty among those who are still doubtful (which typically drops when constraints are lifted) becomes inflated the higher their level of Sentimental Attachment and the odds of being Uncertain relative to No almost doubles for every standard deviation increase in Sentiment Attachment.

Among those in areas where the level of deprivation is *low* we find only a slightly lower response to attachment once the accommodation constraint is removed. It is Sentimental and Participatory Attachment that weakens, and this leaves local Friends and a slightly strengthened response to local Relatives as the main inhibiting constraint to potential movement.

As our earlier results for Sentimental Attachment suggest, plans to move by those living in highly deprived areas are hardly affected by lifting job constraints. What is interesting about the results for those in the labour force in such areas is that after the job constraints have been lifted (and when all five dimensions of attachment are included), the only form of attachment to show any constraining influence on moving intentions is the presence of Relatives in the area. And we know from previous work on this survey that a high proportion of these respondents are likely to be Māori.

In the case of the 203 members of the labour force living in areas of *medium* deprivation, when the job constraint is lifted not one of the attachment variables plays anywhere near a statistically significant role in constraining plans to move. Those members of the labour force resident living in *low* deprivation areas show little evidence of having their plans to 'move to a job that they want' constrained by any form of attachment to their existing location. A minor exception is those who participate in the community's activities, a form of attachment that reduces the odds on being likely to move by under a third.

To summarise, this section has examined the impact of Sentimental Attachment and other forms of attachment on the propensity to move for the whole sample population and assessed the marginal impact of relaxing job and accommodation in areas characterised by different levels of deprivation. In each case, but most particularly in highly deprived areas, not only are attachment constraints low, but they virtually cease

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[30] There are six different results but space prevents us reproducing all the tables so a summary will have to suffice. The full set of results is available upon request.

to have any impact at all when jobs and accommodation constraints are relaxed, Proximity to Relatives being an exception.

At the same time, living in deprived areas does not necessarily mean that all residents in these areas are deprived in the NZDep96 index sense of the term. For this reason, among others, it is important to recalibrate the evidence, controlling for the fact that within each area there will be a different mix of individuals.

9. Controlling for the Characteristics of Individuals

In drawing inferences about behaviour in residential areas classified as deprived, the relationship between moving intentions and attachment needs to be assessed in full awareness of the possible influence of composition effects. The model containing the available controls is as follows:

(4) $PM_i = \alpha + \beta_1 A_i + \beta_5 D_i + \beta_6 I_{1i}, ..., \beta_\kappa P_{\kappa i} + \varepsilon_i;$

where PM_i measures the moving intentions of the ith respondent as above; A_i is a vector of attachment dimensions present in the previous section, D_i is the number of years the respondent has lived in the area, the vector I refers to the characteristics of the individuals and P to the places in which they live. Table 10 introduces the specific characteristics of the sample.

Table 10: Sample Characteristics from the National Attachment Survey, 2005

Variable	Order	Categories	All	Low NZDep. (<6)	High NZDep. (>5)	Diff
1	2	3	4	5	6	7
MOBILITY						
Duration of Residence	1	Years of residence (excludes Born Here)	17.3	15.6	49.1	2.8
PEOPLE						
Sex	2	Male	49.8	51.2	49.1	-2.1
Age	2	18-29 years	7.9	8.4	7.6	-0.8
		30-39 years	15.7	14.1	16.8	2.7
		40-49 years	24.5	23	25.5	2.5
		50-59 years	19.2	20.7	18.3	-2.4
		60+*	32.6	33.8	31.8	-2.0
Household	2	One person only	19.7	19.9	19.6	-0.3
		Couple with no children	31.4	32.1	31	-1.1
		Couple with children*	36.4	38	35.4	-2.6
		One parent with children	5.3	3.6	6.4	2.8
		Multiple family, multiple adult	4.3	3.3	4.9	1.6
Employment	3	Fulltime or part-time paid work*	65.5	67.9	64	-3.9
		Searching for work	4.3	4.3	4.3	0
		Not available for paid work	30.1	27.8	31.7	3.9
Income	3	Less than $15,000 per annum	23.0	21.6	23.7	2.1
		$15-$25,000	14.5	12.5	15.8	3.3
		$25-$40,000	23.2	25.9	21.5	-4.4
		$40-$70,000*	25.5	26.2	25	-1.2
		$70k +	13.8	13.7	14	0.3
		Refused	6.4	7.6	5.6	-2.0
		Don't know	2.9	3.0	2.8	-0.2
Tenure	3	Owned – with or without mortgage	79.6	79.1	80.1	1.0
Ethnicity	4	NZ European*	81.3	86.5	77.9	-8.6
		NZ Maori	3.7	3.3	3.9	0.6
		NZEuroMaori	4.0	2.8	4.8	2.0
		[NZ Maori + NZ EuroMaori]	7.7	6.1	8.7	2.6
		Other European	4.6	4.3	4.8	0.5
		Other Ethnicity	6.4	3.1	8.6	5.5
Reasons for moving in	8	Physical environment/climate/beauty etc	25.9	25.3	26.4	1.1
		Close to facilities – work, schools, shops	26.8	23.5	29	5.5
		To be nearer to family/friends/good neighbours	11.1	14.5	8.9	-5.6
		Close to activities/recreation locations	2.2	2.0	2.3	0.3
		Early connections to area, born here/grew up here	8.7	8.9	8.6	-0.3
		Good place – safe/quiet/good to bring up kids	1.7	1.8	1.6	-0.2
		Housing related reasons	13.6	8.4	17	8.6
		Lifestyle/stage reasons	5.3	10.2	2.1	-8.1
		Other reasons*	4.6	5.4	4.1	-1.3
PLACE						
Settlement	6	Main urban area*	67.9	46.2	82	35.8
		Satellite urban community	1.7	1.0	2.1	1.1
		Independent urban community	13.4	16	11.5	-4.5
		Rural area with a high urban influence	2.0	4.8	0.2	-4.6
		Rural area with a moderate urban influence	5.3	12.5	1.0	-11.5
		Rural area with a low urban influence	7.0	13.8	2.5	-11.3
		Highly rural/remote area	2.7	5.4	1.0	-4.4
Deprivation Index	7	Very Low: decile 1 & 2	10.7			
		Low: decile 3 & 4	13.3			
		Medium: decile 5 & 6*	15.2			
		High: decile 7 & 8	20.5			
		Very high: decile 9 & 10	40.2			
Sample size			**999**	**392**	**607**	

* = base categories in the subsequent regressions
Source: National Attachment Survey, 2005

A comparison of the last three columns of Table 10 shows that the values of the demographic variables hardly differ between areas of high and low deprivation as we define them here; the main differences are actually in the characteristics of the places and the reasons people give for moving there. This result underscores the fact that labels like deprived are based on quite subtle place to place differences in the distribution of people over a range of specific 'deprivations'.[31]

The results of applying model 4 to the data in Table 10 are given in Table 11. Here we find that even with the full suite of controls in place, Sentimental and Participatory Attachment continue to reduce the likelihood that respondents say they plan to move and that, with the exception of age and home ownership, none of the introduced sample characteristics plays a statistically significant role in modifying these plans. Interestingly, with the controls in place, although having Friends in the area appears to lower the willingness to move – and considerably raise its uncertainty – the presence of Relatives continues to have little observable effect.[32] Note also that while Sentimental Attachment reduces the chances someone says they plan to move, it also raises the level of uncertainty around moving (as the negative loading on Not Sure indicates).

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[31] White et al. (2008).

[32] Berlot and Ermisch (2006) claim to be "the first to provide a direct measure of social ties, friendship in our case, and use it to measure its effect on mobility and the effect mobility on social ties" (p.3). They use the British Household Panel Study (BHPS). However they make no reference to the sociological literature cited above.

Table 11: Estimates of coefficients on plans to move from fully controlled multinomial logistic regression model

	Coef.	Std. Err.	z	P > |z|	[95% Cont. Interval]	
Yes						
f1_sent	-0.457*	0.131	-3.28	0.001	-0.729	-0.184
f4_part	-0.335*	0.160	-2.10	0.036	-0.647	-0.022
f5_eval	0.236	0.169	1.39	0.163	-0.095	0.567
FriendsArea	-0.659	0.355	-1.86	0.063	-1.354	0.036
RelativeArea	-0.219	0.336	-0.65	0.515	-0.876	0.439
DurResYrs	-0.025	0.027	-0.90	0.371	-0.078	0.029
DurResYrsSq	0.001	0.000	1.13	0.258	-0.000	0.001
Sex	-0.066	0.343	-0.19	0.848	-0.738	0.606
age_18_29	1.327*	0.684	1.94	0.053	-0.014	2.667
age_30_39	1.271*	0.639	1.99	0.047	0.019	2.523
age_40_49	0.686	0.632	1.09	0.278	-0.552	1.924
age_50_59	0.739	0.601	1.23	0.219	-0.438	1.915
couple0chi~n	-0.172	0.376	-0.46	0.648	-0.907	0.564
OnePersonHH	-0.380	0.516	-0.74	0.462	-1.392	0.632
oneparwith~d	-0.726	0.730	-0.99	0.320	-2.156	0.704
multiplead~s	-0.221	0.651	-0.34	0.734	-1.497	1.055
Emp_Seaching	-0.197	0.738	-0.27	0.789	-1.643	1.248
Emp_NotAvail	0.185	0.488	0.38	0.705	-0.770	1.140
income_le~15	-0.774	0.544	-1.42	0.155	-1.841	0.292
income_15_25	-0.006	0.497	-0.01	0.990	-0.980	0.968
income_25_40	-0.019	0.392	-0.05	0.961	-0.787	0.749
income_70m~e	-0.592	0.506	-1.17	0.242	-1.583	0.398
highestinc~e	-0.213	0.353	-0.60	0.547	-0.905	0.480
ownhouse	-1.247*	0.341	-3.65	0.000	-1.915	-0.577
MNZMaori	-0.968	0.665	-1.46	0.145	-2.270	0.334
OtherEuro	0.020	0.627	0.03	0.975	-1.208	1.248
OtherEthni~y	-0.193	0.505	-0.38	0.703	-1.182	0.797
ur_Satellite	-0.622	1.143	-0.54	0.586	-2.862	1.617
ur_IndepUr~n	-0.328	0.497	-0.66	0.510	-1.302	0.647
ur_RuralHigh	-0.088	0.999	-0.09	0.930	-2.046	1.869
ur_RuralMod	-0.402	0.810	-0.50	0.620	-1.989	1.185
ur_RuralLow	-1.061	0.787	-1.35	0.178	-2.603	0.481
ur_HighRural	-0.844	1.119	-0.75	0.451	-3.036	1.348
PhysicalEn~t	-0.405	0.465	-0.87	0.383	-1.315	0.505
ClosetoFac~s	-0.116	0.429	-0.27	0.787	-0.957	0.725
PeopleNear~y	-0.066	0.553	-0.12	0.905	-1.149	1.017
ClosetoAct~s	0.496	0.901	0.55	0.582	-1.270	2.262
EarlyConne~n	-0.195	0.689	-0.28	0.777	-1.544	1.154
GoodplaceQ~t	-34.992	3.12e+07	-0.00	1.000	-6.12e+07	6.12e+07
LifeStyleR~s	-0.319	0.930	-0.34	0.732	-2.141	1.504
OtherReasons	-1.508	1.142	-1.32	0.187	-3.747	0.731
_cons	-0.410	0.955	-0.43	0.667	-2.282	1.462

Not sure						
f1_sent	-0.341*	0.148	-2.31	0.021	-0.631	-0.051
f4_part	-0.211	0.156	-1.36	0.175	-0.515	0.093
f5_eval	0.018	0.159	0.12	0.908	-0.292	0.329
FriendsArea	-1.302	0.357	-3.64	0.000	-2.002	-0.600
RelativeArea	-0.261	0.360	-0.72	0.469	-0.966	0.444
DurResYrs	0.008	0.034	0.23	0.817	-0.059	0.075
DurResYrsSq	-0.001	0.001	-0.75	0.455	-0.001	0.000
Sex	-0.114	0.342	-0.33	0.739	-0.783	0.555
age_18_29	-0.479	0.668	-0.72	0.473	-1.787	0.829
age_30_39	-0.909	0.585	-1.55	0.120	-2.054	0.237
age_40_49	-1.030	0.551	-1.87	0.061	-2.109	0.048
age_50_59	-1.493*	0.586	-2.55	0.011	-2.641	-0.344
couple0chi~n	-0.198	0.413	-0.48	0.631	-1.007	0.610
OnePersonHH	0.037	0.534	0.07	0.945	-1.009	1.083
oneparwith~d	0.662	0.678	0.98	0.329	-0.666	1.990
multiplead~s	0.525	0.673	0.78	0.435	-0.793	1.843
Emp_Seaching	-0.240	0.728	-0.33	0.742	-1.666	1.186
Emp_NotAvail	-0.856	0.479	-1.79	0.074	-1.793	0.082
income_le~15	0.127	0.504	0.25	0.801	-0.861	1.115
income_15_25	-0.625	0.572	-1.09	0.274	-1.745	0.495
income_25_40	-0.528	0.459	-1.15	0.250	-1.427	0.371
income_70m~e	0.347	0.471	0.74	0.461	-0.576	1.270
highestinc~e	0.638	0.347	1.84	0.066	-0.042	1.317
ownhouse	-0.200	0.387	-0.52	0.606	-0.957	0.558
MNZMaori	-0.060	0.556	-0.11	0.914	-1.149	1.028
OtherEuro	-0.859	0.835	-1.03	0.304	-2.496	0.778
OtherEthni~y	0.230	0.521	0.44	0.658	-0.789	1.250
ur_Satellite	-35.065	3.19e+07	0.00	1.000	-6.25e+07	6.25e+07
ur_IndepUr~n	0.337	0.482	0.70	0.484	-0.607	1.281
ur_RuralHigh	0.320	1.115	0.29	0.774	-1.865	2.505
ur_RuralMod	0.807	0.632	1.28	0.201	-0.430	2.045
ur_RuralLow	-1.087	1.048	-1.04	0.300	-3.140	0.967
ur_HighRural	1.070	0.757	1.41	0.158	-0.413	2.553
PhysicalEn~t	0.001	0.473	0.00	0.998	-0.925	0.928
ClosetoFac~s	0.118	0.455	0.26	0.796	-0.774	1.009
PeopleNear~y	-1.018	0.692	-1.47	0.142	-2.375	0.339
ClosetoAct~s	-0.642	1.151	-0.56	0.577	-2.898	1.614
EarlyConne~n	-0.310	0.776	-0.40	0.689	-1.831	1.210
GoodplaceQ~t	-0.667	1.177	-0.57	0.571	-2.973	1.639
LifeStyleR~s	-1.666	1.128	-1.48	0.140	-3.876	0.545
OtherReasons	-0.596	0.878	-0.68	0.497	-2.317	1.124
_cons	-0.772	0.941	-0.82	0.412	-2.616	1.072

* = P < 0.05

Source: National Attachment Survey, 2005

Respondents are considerably more likely to move the younger they are, and, as the Not Sure responses in Table 11 show, they become considerably less certain about whether they'll move or not as they get older. Home ownership provokes a negative reaction to planned moves as expected but has little effect on respondents' degree of uncertainty about moving.

When respondents are free to consider a move without the need to find a job, not only does the chance of moving rise but the multiple attachments that normally constrain movement no longer apply; see Table 12. The negative coefficients are considerably weaker and their z scores drop below the conventional 0.05 significance level. Instead, the primary drivers shift to the age variables where every age group below 60 years either plans to move or is increasing their level of uncertainty. Those searching for work also show a significant positive response to moving as well as being more uncertain rather than simply saying No.

Table 12: Estimates of coefficients on plans to move from fully controlled multinomial logistic regression model when job constraints are removed

	Coef.	Std. Err.	z	P > |z|	[95% Cont. Interval]	
Yes						
f1_sent	-0.139	0.105	-1.33	0.183	-0.344	0.065
f4_part	-0.189	0.109	-1.74	0.082	-0.402	0.024
f5_eval	-0.095	0.103	-0.92	0.356	-0.297	0.107
FriendsArea	-0.034	0.313	-1.07	0.282	-0.950	0.277
RelativeArea	-0.034	0.235	-0.15	0.883	-0.494	0.425
DurResYrs	-0.022	0.023	-0.97	0.334	-0.067	0.023
DurResYrsSq	0.000	0.000	0.75	0.451	-0.000	0.001
Sex	-0.261	0.251	-1.04	0.299	-0.753	0.231
age_18_29	2.238*	0.543	4.12	0.000	1.174	3.302
age_30_39	1.770*	0.461	3.84	0.000	0.866	2.674
age_40_49	1.924*	0.433	4.44	0.000	1.075	2.772
age_50_59	1.384*	0.407	3.40	0.001	0.585	2.182
couple0chi~n	0.184	0.273	0.67	0.500	-0.350	0.718
OnePersonHH	0.164	0.383	0.43	0.669	-0.587	0.915
oneparwith~d	0.483	0.562	0.86	0.390	-0.618	1.585
multiplead~s	0.126	0.610	0.21	0.836	-1.069	1.321
Emp_Seaching	1.071*	0.511	2.09	0.036	0.068	2.072
income_le~15	-0.726	0.403	-1.80	0.072	-1.516	0.065
income_15_25	-0.682	0.390	-1.75	0.080	-1.445	0.081
income_25_40	-0.162	0.280	-0.58	0.563	-0.709	0.386
income_70m~e	0.038	0.298	0.13	0.899	-0.545	0.620
highestinc~e	0.032	0.259	0.12	0.903	-0.476	0.539
ownhouse	-1.100*	0.280	-3.92	0.000	-1.649	-0.550
MNZMaori	0.134	0.360	0.37	0.709	-0.570	0.839
OtherEuro	0.236	0.513	0.46	0.645	-0.769	1.242
OtherEthni~y	-1.162*	0.392	-2.97	0.003	-1.929	-0.394
ur_Satellite	0.728	0.823	0.88	0.376	-0.884	2.341
ur_IndepUr~n	0.040	0.345	0.12	0.907	-0.634	0.715
ur_RuralHigh	-1.127	0.709	-1.59	0.112	-2.516	0.262
ur_RuralMod	0.198	0.457	0.43	0.665	-0.697	1.094
ur_RuralLow	-0.943*	0.422	-2.23	0.026	-1.770	-0.115
ur_HighRural	0.301	0.584	0.52	0.606	-0.844	1.446
PhysicalEn~t	-0.327	0.333	-0.98	0.327	-0.979	0.326
ClosetoFac~s	-0.030	0.331	-0.09	0.928	-0.679	0.619
PeopleNear~y	-0.411	0.437	-0.94	0.347	-1.266	0.444
ClosetoAct~s	-0.026	0.773	-0.03	0.973	-1.539	1.488
EarlyConne~n	-0.250	0.502	-0.50	0.619	-1.233	0.733
GoodplaceQ~t	-0.855	0.871	-0.98	0.326	-2.561	0.851
LifeStyleR~s	-1.472*	0.589	-2.50	0.012	-2.625	-0.318
OtherReasons	-0.956	0.628	-1.52	0.128	-2.187	0.275
_cons	0.344	0.704	0.49	0.625	-1.036	1.724

Don't know						
f1_sent	0.129	0.202	0.64	0.525	-0.268	0.525
f4_part	-0.294	0.211	-1.40	0.163	-0.707	0.118
f5_eval	-0.125	0.193	-0.65	0.517	-0.504	0.253
FriendsArea	0.522	0.699	0.75	0.455	-0.848	1.893
RelativeArea	-0.148	0.453	-0.33	0.743	-1.036	0.739
DurResYrs	-0.020	0.047	-0.44	0.663	-0.112	0.071
DurResYrsSq	0.000	0.001	0.19	0.852	-0.001	0.002
Sex	-0.403	0.459	-0.88	0.380	-1.302	0.496
age_18_29	1.964	1.095	1.79	0.073	-0.182	4.110
age_30_39	2.007*	0.974	2.06	0.039	0.098	3.914
age_40_49	1.498	0.936	1.60	0.109	-0.336	3.332
age_50_59	1.498	0.857	1.75	0.081	-0.181	3.178
couple0chi~n	0.555	0.509	1.09	0.276	-0.442	1.552
OnePersonHH	0.291	0.770	0.38	0.705	-1.218	1.800
oneparwith~d	1.878*	0.907	2.07	0.038	0.100	3.654
multiplead~s	1.885	0.945	1.99	0.046	0.031	3.737
Emp_Seaching	1.828*	0.769	2.38	0.017	0.320	3.335
income_le~15	-0.408	0.728	-0.56	0.575	-1.835	1.019
income_15_25	-1.164	0.900	-1.29	0.196	-2.928	0.600
income_25_40	0.087	0.518	0.17	0.867	-0.927	1.101
income_70m~e	0.237	0.541	0.44	0.662	-0.823	1.296
highestinc~e	0.408	0.445	0.92	0.359	-0.464	1.280
ownhouse	0.077	0.566	0.14	0.892	-1.032	1.186
MNZMaori	-0.266	0.808	-0.33	0.742	-1.849	1.318
OtherEuro	0.052	0.926	0.06	0.955	-1.763	1.867
OtherEthni~y	-1.196	0.883	-1.35	0.176	-2.927	0.535
ur_Satellite	-33.440	2.74e+07	-0.00	1.000	-5.36e+07	5.36e+07
ur_IndepUr~n	1.136*	0.573	1.98	0.048	0.012	2.260
ur_RuralHigh	-34.387	2.31e+07	-0.00	1.000	-4.53e+07	4.53e+07
ur_RuralMod	0.341	0.888	0.38	0.701	-1.399	2.082
ur_RuralLow	0.936	0.612	1.53	0.126	-0.263	2.135
ur_HighRural	0.096	1.205	0.08	0.936	-2.266	2.458
PhysicalEn~t	0.036	0.673	0.05	0.957	-1.283	1.355
ClosetoFac~s	0.301	0.670	0.45	0.653	-1.012	1.614
PeopleNear~y	-0.258	0.854	-0.30	0.763	-1.931	1.416
ClosetoAct~s	-34.374	2.42e+07	-0.00	1.000	-4.74e+07	4.74e+07
EarlyConne~n	-1.309	1.278	-1.02	0.306	-3.812	1.195
GoodplaceQ~t	0.937	1.171	0.80	0.424	-1.357	3.231
LifeStyleR~s	-0.463	0.906	-0.51	0.609	-2.238	1.311
OtherReasons	-0.552	1.272	-0.43	0.664	-3.045	1.940
_cons	-4.664	1.515	-3.08	0.002	-7.633	-1.694

Log likelihood	=	-411.82269	Number of jobs	=	551
LR chi2(82)	=	163.37	Prob > chi2	=	0.0000
Pseudo R2	=	0.1655			

* = P < 0.05

Source: National Attachment Survey, 2005

Even with the job constraints removed, as a group home owners still have weaker plans to move. The other results in Table 12 which do emerge as significant have to be treated cautiously due to the lower numbers involved (n=551). Of potential interest,

however, is the emergence of one parent households with dependents who together with those living in multiple family households, express a greater uncertainty about moving once job constraints are removed, relative to couples with children.

When constraints on accommodation are lifted as in Table 13 the weight shifts from age to attachment and to duration of residence, home ownership, living in a multiple family household and reasons for settling in the area. All these reduce the chances of respondents considering a move. Interestingly, although home owners now know they have accommodation arranged if they move elsewhere, there is still a reluctance to consider moving away.

Table 13: Estimates of coefficients on plans to move from fully controlled multinomial logistic regression model with accommodation constraints lifted

	Coef.	Std. Err.	z	P > | z |	[95% Cont. Interval]	
Yes						
f1_sent	-0.175*	0.085	-2.05	0.040	-0.341	-0.007
f4_part	-0.076	0.087	-0.87	0.386	-0.246	0.095
f5_eval	-0.013	0.086	-0.15	0.879	-0.181	0.155
FriendsArea	-0.531*	0.246	-2.16	0.031	-1.012	-0.049
RelativeArea	-0.224	0.187	-1.20	0.231	-0.591	0.142
DurResYrs	0.034*	0.017	1.96	0.049	0.000	0.067
DurResYrsSq	-0.001*	0.000	-1.90	0.058	-0.001	0.000
Sex	-0.177	0.200	-0.88	0.377	-0.568	0.215
age_18_29	0.508	0.423	1.20	0.230	-0.321	1.336
age_30_39	0.653	0.355	1.84	0.066	-0.042	1.348
age_40_49	0.608	0.320	1.90	0.057	-0.019	1.236
age_50_59	0.119	0.301	0.39	0.694	-0.471	0.709
couple0chi~n	-0.005	0.232	-0.02	0.981	-0.460	0.449
OnePersonHH	-0.438	0.304	-1.44	0.150	-1.034	0.158
oneparwith~d	-0.041	0.409	-0.10	0.920	-0.843	0.761
multiplead~s	-1.056*	0.498	-2.12	0.034	-2.032	-0.079
Emp_Seaching	-0.262	0.438	-0.60	0.550	-1.121	0.596
Emp_NotAvail	-0.421	0.262	-1.61	0.108	-0.933	0.092
income_le~15	-0.092	0.294	-0.31	0.754	-0.667	0.483
income_15_25	-0.226	0.310	-0.73	0.466	-0.834	0.382
income_25_40	-0.190	0.246	-0.78	0.438	-0.671	0.290
income_70m~e	-0.348	0.275	-1.27	0.205	-0.886	0.189
highestinc~e	-0.134	0.209	-0.64	0.523	-0.543	0.276
ownhouse	-0.676*	0.224	-3.03	0.002	-1.114	-0.238
MNZMaori	0.088	0.305	0.29	0.772	-0.509	0.686
OtherEuro	0.504	0.364	1.39	0.166	-0.208	1.216
OtherEthni~y	-0.268	0.345	-0.78	0.437	-0.943	0.408
ur_Satellite	-0.407	0.565	-0.72	0.472	-1.514	0.700
ur_IndepUr~n	-0.686*	0.280	-2.45	0.014	-1.235	-0.137
ur_RuralHigh	-0.046	0.600	-0.08	0.939	-1.222	1.131
ur_RuralMod	-0.280	0.391	-0.72	0.473	-1.046	0.485
ur_RuralLow	-1.209*	0.383	-3.16	0.002	-1.959	-0.458
ur_HighRural	0.144	0.528	0.27	0.785	0.890	1.178
PhysicalEn~t	-0.728*	0.274	-2.66	0.008	-1.265	-0.190
ClosetoFac~s	-0.777*	0.271	-2.87	0.004	-1.306	-0.246
PeopleNear~y	-0.654*	0.333	-1.97	0.049	-1.305	-0.001
ClosetoAct~s	-0.739	0.580	-1.28	0.202	-1.875	0.396
EarlyConne~n	-0.483	0.413	-1.17	0.242	-1.292	0.325
GoodplaceQ~t	-0.300	0.648	-0.46	0.644	-1.570	0.970
LifeStyleR~s	-3.041*	0.795	-3.82	0.000	-4.599	-1.482
OtherReasons	-0.725	0.456	-1.59	0.112	-1.620	0.169
_cons	1.607	0.570	2.82	0.005	0.489	2.725

Don't know						
f1_sent	0.386	0.202	1.92	0.055	-0.009	0.781
f4_part	0.141	0.178	0.79	0.429	-0.207	0.489
f5_eval	-0.243	0.171	-1.42	0.156	-0.578	0.092
FriendsArea	1.324	0.797	1.66	0.097	-0.238	2.886
RelativeArea	-0.550	0.422	-1.30	0.193	-1.376	0.277
DurResYrs	0.035	0.043	0.81	0.416	-0.049	0.119
DurResYrsSq	-0.001	0.001	-1.07	0.286	-0.002	0.000
Sex	-0.391	0.400	-0.98	0.328	-1.175	0.393
age_18_29	1.201	0.858	1.40	0.162	-0.480	2.883
age_30_39	1.015	0.757	1.34	0.180	-0.468	2.498
age_40_49	0.171	0.745	0.23	0.819	-1.289	1.631
age_50_59	0.175	0.640	0.27	0.785	-1.080	1.429
couple0chi~n	0.362	0.502	0.72	0.470	-0.621	1.345
OnePersonHH	0.821	0.671	1.22	0.221	-0.493	2.135
oneparwith~d	1.607*	0.770	2.09	0.037	0.098	3.116
multiplead~s	1.097	0.800	1.37	0.170	-0.470	2.664
Emp_Seaching	-0.778	1.140	-0.68	0.495	-3.012	1.455
Emp_NotAvail	0.194	0.534	0.36	0.717	-0.853	1.241
income_le~15	-0.081	0.674	-0.12	0.904	-1.402	0.240
income_15_25	0.731	0.639	1.14	0.253	-0.521	1.982
income_25_40	0.399	0.552	0.72	0.469	-0.682	1.480
income_70m~e	0.488	0.584	0.84	0.403	-0.655	1.632
highestinc~e	0.836*	0.405	2.07	0.039	0.042	1.630
ownhouse	-0.026	0.542	-0.05	0.962	-1.087	1.036
MNZMaori	-32.412	0.663	-0.00	1.000	-1.30e+07	1.30e+07
OtherEuro	0.049	0.722	0.07	0.945	-1.365	1.464
OtherEthni~y	0.282	0.673	0.42	0.675	-1.035	1.600
ur_Satellite	-32.568	1.35e+07	-0.00	1.000	-2.64e+07	2.64e+07
ur_IndepUr~n	-0.141	0.533	-0.27	0.791	-1.18	0.902
ur_RuralHigh	-0.626	1.217	-0.51	0.607	-3.011	1.759
ur_RuralMod	-0.079	0.750	-0.10	0.917	-1.549	1.392
ur_RuralLow	-0.834	0.806	-1.03	0.301	-2.413	0.746
ur_HighRural	-0.612	1.190	-0.51	0.607	-2.944	1.720
PhysicalEn~t	-0.400	0.569	-0.70	0.483	-1.515	0.716
ClosetoFac~s	-0.696	0.574	-1.21	0.225	-1.822	0.429
PeopleNear~y	-2.166	1.143	-1.89	0.058	-4.407	0.074
ClosetoAct~s	-1.483	1.233	-1.20	0.229	-3.898	0.933
EarlyConne~n	1.478	1.196	-1.24	0.217	-3.823	0.866
GoodplaceQ~t	1.008	1.051	0.96	0.338	-1.052	3.068
LifeStyleR~s	0.158	0.734	0.21	0.830	-1.280	1.595
OtherReasons	-0.723	0.940	-0.77	0.442	-2.565	1.119
_cons	-4.956	1.433	-3.46	0.001	-7.764	-2.148

Log likelihood	=	-574.05063	Number of obs	=	783
LR chi2(82)	=	192.56	Prob > chi2	=	
		0.0000			
Pseudo R2	=	0.1436			

* = P < 0.05

Source: National Attachment Survey, 2005

People living in Independent Urban Areas and Rural Areas with low accessibility to metropolitan markets, together with those who moved to their present location for environmental reasons (or to be close to facilities such as work, school or shopping or to be closer to family and friends) were noticeably less likely to want to move, even with the accommodation constraint addressed.

10. Conclusions

The focus of this paper has been on the ways in which levels of attachment to residential areas constrain people's plans to move. What renders the approach different from other studies of movement plans is the opportunity the New Zealand 2005 National Attachment Survey offers to explore the impact of removing (albeit hypothetically) employment and accommodation constraints which might otherwise inhibit moving and possibly inflate the degree of attachment reported by respondents.

Not all the people who would like to leave their neighbourhood will say so. As other authors have noted, "Cognitive dissonance reduction might lead people who see few options for leaving the neighbourhood to state that they are happy where they live now".[33] The results reported here offer considerable credence to this possibility. On the surface people's level of attachment serves as a rationale for not moving, especially in relatively deprived areas. The impact of job and accommodation constraints on attachment however suggests that reasons for not wanting to move may lie elsewhere - in a perceived inability to move, in the constraints which searching for alternatives pose.

At one level the policy implications are clear: help lift the resource constraints that prevent households from moving out of areas with high levels of deprivation. Mobility grants and incentives are assistance of this nature but are typically supplementary rather than enabling. The issues of assisting mobility are of course much broader than usually addressed through mobility assistance. They go back to education and training in increasing the likelihood of employment hence the resources available to purchase or rent housing in locations of choice, or at least to escape locations of least choice. Without better knowledge of the constraints on movement, what may appear as a strong attachment to existing areas may well simply be capturing rationalisations for not leaving rather than preferences for staying. The fact that 'attachment' virtually disappears as a factor when mobility constraints are lifted (albeit hypothetically) certainly supports such an argument and makes us cautious of reading too much about mobility into reported levels of place attachment or plans to move.

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[33] Van Ham and Feijten (2008:1167).

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