

Modelling the exit--voice trade-off: social capital and responses to public services

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I. Introduction

According to Albert Hirschman (1970) there are three possible responses to a decline in the quality of some product (or we might say simple dissatisfaction with the product): a person might exit – that is shift to another product; they might voice – that is complain to the producer and try to persuade them to provide a better product.; or they might do nothing. A fourth possible response was soon pointed out by commentators. People might exit *and* voice (Barry 1974; Laver 1976). If, given the same objective circumstances some people either do something in the form of exiting, voicing or doing both; or they do then we would seem to have two different behavioural categories: *active* personalities do something; *passive* personalities do nothing. Such a *psychological* explanation relies upon there being some ‘unobservable’ psychic aspect about people’s character or personality. Of course, there might be observable structural reasons why some are active and some passive. Demographic features about people might explain why some do nothing and others act. We know from studies of political participation that the higher one’s education and socio-economic class the more likely one is to participate for example (e.g. Verba et al 1995). One explanation is that the relative costs of participation are lower for such people and hence they are more likely to participate. Similarly of course, exit and voice might be relatively less expensive for some people than it is for others helping to explain why some people are active and some are passive. However, when such objective features of people’s social situation are controlled for, we might discover an active-passive psychological dimension not explained by structural variables.

Hirschman's argument in fact recognized such an active-passive dimension. He suggested that *alert* consumers might respond more quickly to quality decline. If those alert consumers voiced their complaints and had some effect upon service quality then the *inert* consumers would also benefit from that activity. However, if the alert consumers chose instead to exit, then the inert would be left behind and have to suffer the consequences of low quality goods. Hirschman's argument is politically important for he suggested that for some public goods, such as state education or national health care; making exit easier might entail that the alert would choose to exit rather than voice leaving the inert behind. If those left behind were people who could not exit because they could not afford to leave public for private education or health care; or could not exit from poor local providers of education and health care (by moving house to another jurisdiction or catchment area) then increasing exit opportunities would create an underclass of inert families who would continue to suffer poor services. These poor families would be 'locked-in' unable to exit, and have little incentive to voice – perhaps because of feelings of inadequacy, alienation or inefficacy. Given the changing modes of service-delivery throughout the developed world where private and non-state providers are encouraged to compete with state-providers such an argument has political resonance more clearly now than when Hirschman first voiced it almost forty years ago.

In this paper we use a dedicated survey to examine the satisfaction of consumers with local government services, education and health care in the UK. As well as a battery of questions discovering their demographic characteristics we also examine their past voice and exit behaviour and their intentions about future voice and exit behaviour. Our survey was of UK internet users, randomly selected from a representative bank. Internet panels are increasingly used in survey research, such as

the ESRC-funded 2005 British Election Study. Several survey companies have large banks of users which are weighted to be representative of the population. The findings from the 2005 BES shows little or no difference – depending on the question – between the results gained from an internet poll and a conventional random probability door-to-door survey (Sanders *et al.* 2006). We sampled 9500 people from a bank of over 100,000 YouGov users yielding 4067 responses, a response rate of 42 per cent.¹ Table 1 compares the distribution of our survey to the general population and Table 2 describes key variables.

[Tables 1 and 2 about here]

We have listed the variables in four groups: social investment, satisfaction, exit and voice. Most of the variables are self-explanatory. The group membership variable was created from a set of questions asking whether people belonged to, took part in, supported or helped organizations or activities including schools, sports clubs, trade unions, churches, and so on. Each of these variables could score 0 or 1 and the items are summarized in our group membership variable by adding up the scores on our specific variable, so the group variable ranges from 0 to 16.² The satisfaction variables all score between 1 and 7; the intention to move between 0 and 6; and whether or not the person has private health insurance 0 or 1. Aggregated complaining and aggregated participation were also created from individual responses to complaints and participation questions. For the complaining variable we add together all the individual complaints, a term that has a mean of .7 and a standard deviation of 1.31. The participation variable was created from whether people had attended public meetings or rallies, taken part in demonstrations or protests, signed petitions or met with neighbours to complain or lobby.³

II Two Frameworks

Of the vast array of articles purporting to utilize Hirschman's concepts empirically only two sets really attempt to measure the relationships in an explanatory framework akin to Hirschman's. Most articles simply use the terms 'exit' and 'voice' as labels stuck on to behaviours identified in the analysis, whilst loyalty is generally ignored altogether (see Dowding *et al.* 2000 for a review).⁴ The first approach that really tries to examine empirically the relationships suggested in Hirschman's explanatory framework is the 'Exit, Voice, Loyalty and Neglect' (EVLN) model developed by Caryl Rusbelt and her colleagues in personal and organizational relationships (Rusbelt *et al.* 1982; Rusbelt, *et al.* 1986; Rusbelt and Lowery 1985; Rusbult and Farrell 1982; Farrell (1983). In political science this framework has been used in a very similar way to our study by David Lowery and colleagues (Lyons *et al.* 1992) examining satisfaction with local government services in two urban areas in the US. The second attempt is the Three Exit, Three Voice and Loyalty (3V3EL) framework of Dowding and John (2007).

The EVLN Model

The EVLN model posits two underlying psychological attributes: an active—passive dimension and a positive—negative dimension. Personality types then fall into four categories: Voicers (active—positive), Exiters (active—negative), Loyalists (passive—positive) and Neglecters (passive—negative). This gives four responses to a dissatisfaction as mapped in Figure 1.

[Figure 1 About Here]

It is important to note in this model that the concept of loyalty used here is very different from that in Hirschman. In Hirschman's original framework loyalty is a psychological variable that mediates between exit and voice. He suggests that some people are more loyal to a product than others, and this can explain why, even though they face the same relative costs as others with regard to both exit and voice options, loyalists are more likely to voice than to exit. Those without loyalty are more likely to choose the exit option. In that sense, loyalty for Hirschman is an unobservable psychological variable. In the EVLN model contrariwise loyalty is another behavioural response on a par with exit, voice and neglect. The unobservable psychological dimensions are the active—passive and positive—negative ones.

The 3E3VL Framework

The 3E3VL framework modifies Hirschman in two major ways. First, it splits the exit and voice categories into three separate responses each. Second, it turns the unobservable psychological variable into an observable structural one by suggesting that loyalty can be captured by past social investment and current social capital. The three exits in this model are:

Tiebout Exit – occurs when a household moves from the jurisdiction of one public provider to that of another (Tiebout 1956, see Dowding *et al.* 1994).

Provider Exit – occurs when someone moves from one public service provider to another – such as moving from one doctor's practice to another because of dissatisfaction with the services provided by the first provider.

Public Exit – is moving from public sector providers altogether to move to private sector provision such as moving one's children from a state school to a private one; or to hold private health insurance despite the existence of a national health service.

The three voices in this framework are:

Individual Voice – is composed of complaints about goods or services provided to households.⁵ Such complaints might be addressed directly to the local provider – whether public or private – or to public officials such as local or national bureaucrats or to local or national elected politicians.

Collective Voice Voting – We split collective voice into two components. The first is voting, and we have data on both local and national voting. Collective voice in the form of voting might be used to complain about services (voting against an elected council on the grounds of poor services, or against the national government for its record on public services); or to defend the elected governments against an opposition that the voter feels will provide worse services (Dowding *et al.* 2000).

Collective Voice Pressure Politics – a second form of collective voice occurs through organized pressure lobbies; or through joining in collective protests. Collective voice might be used to defend services or to attack poor service provision.

Loyalty is turned into a structural variable by suggesting that people are loyal to an area if they have connections to it. Someone might be dissatisfied with local services but be reluctant to Tiebout exit because they have family and friends in the area. They might have socially invested in their local school for example, and so want to see it improved rather than have their efforts wasted as they move into the private sector and so on. We argue that loyalty can be seen as past social investment and current social capital and it is that social capital that will explain why otherwise identically situated people will respond differentially to the three exit and three voice possibilities (Dowding and John 2007).

In this paper we analyse our empirical data to see if we can find evidence of the social capital elements of loyalty and how they mediate between voice and exit

possibilities. We try to examine whether or not there seems to be an exit voice trade-off and we also search for evidence of the active—passive dimension as seen in the EVLN framework. In this paper we use only the collective voice pressure politics and the Tiebout exit category.

III Satisfaction

Before we turn to our empirical analysis we need to say something about satisfaction. In Hirschman's original account exit and voice were responses to a *decline* in quality, with an attention to the provision of goods or services. However, most commentators (Barry 1974; Laver 1976; Dowding *et al.* 2000 for example) see no reason why it should not also be applied to dissatisfaction, which is more associated with public services, with variations in satisfaction according to performance and to personal circumstances – and their expectations. In terms of exit and voice, the poor performance of public services translates to dissatisfaction, which then creates the incentive to exit and encourages voice. After all, people voice and exit for a reason as each of these activities involves a cost, which needs to be outweighed by a potential benefit, which either the rectification of the dissatisfaction or the benefits from consuming better services from another provider or in another location.

Our satisfaction variables all score between 1 and 7 thus allowing us to measure relative satisfaction across a basket of services and examine responses to those satisfaction levels. However, satisfaction is not a simple variable. Our data examines individual attitudes towards services and individual responses to that level of satisfaction. In vast body of literature on satisfaction the older literature concentrates upon demographic factors. So for example, the literature suggests that older people,

less educated people, the unemployed, and lower social-economic class are all more satisfied than younger, more educated and higher social-economic class. There might be a number of competing explanations given for these demographic findings. Some are related to ideas of political efficacy. Those who feel that they are less effective politically compensate any cognitive dissonance by being more accepting of what they receive in the form of public services. However, this finding cannot explain why older people are more satisfied. Older people tend to vote more which suggests they feel more politically effective than younger people. Another, and more recent suggestion is that social capital might explain how politically efficacious people feel. The demographics and the social capital might be related. Another explanation of satisfaction has more to do with expectations. Those who use public services more often accept quality of service more readily because that is what they are used to. Those who use private services more often tend to have higher expectations because quality levels are higher there perhaps because private services *pro rata* better funded as they do not involve cross-subsidy. That would also help to explain the demographics of satisfaction. In this paper we are not trying to explain satisfaction levels. Rather we assume that satisfaction is related to the more objective assessment of the quality of services based upon expectations. We find in our empirics that the demographics of satisfaction hold, but we are more interested in the relationship between level of satisfaction and consumer responses to that satisfaction level.

Satisfaction is a key variable affecting any potential exit-voice trade-off. Dowding and John (2007) argue that private voice activity will only occur where citizens are dissatisfied with the public services they receive. However, collective voice might be used to defend services even if when people are satisfied them. In fact we showed a strong correlation between dissatisfaction and private voice and a weak

one with collective voice notably voting. We would expect to see a correlation between dissatisfaction and exiting though again people have other reasons for moving than mere dissatisfaction. Indeed we have shown only weak relationships between current dissatisfaction with local government services and geographical exit (John *et al.* 1995; Dowding and John 1996) and intentions to exit (Dowding and John 2007). It should also be noted that as it is known that the level of satisfaction with services varies with social class, educational attainment and employment status. Those in employment, with higher education and higher social class tend to be less satisfied with services. This higher level of dissatisfaction is probably due to higher expectations. It is also the case that, independent of level of satisfaction, the better educated and wealthier are also more likely to voice and exit, as both activities are lower cost for them.

IV. Empirical Analysis

In earlier work (Dowding and John 2007) on this dataset using OLS and probit had suggested that dis-satisfied people are more likely to vote and engage in other forms of collective participation. We found no direct evidence of an exit-voice trade-off, but we did find that people 'locked-in' to state education were more likely to voice at given levels of satisfaction than those who were not locked-in. We also found that those who did exit are more likely to voice overall than those who do not. These regressions also suggested that those who exit are more likely to engage in all forms of voice activity. In this paper we try to extend these results by examining more closely the relationships between social socio-economic status, social capital, satisfaction and the pressure group collective voice (hereafter just called 'collective

voice’) and Tiebout exit activities. The basic relationships we are attempting to examine are graphically represented in Figure 2.

[Figure 2 About Here]

As can be seen in the figures the general idea is that social capital should increase voice activity relative to exit. We expect social capital to have this effect on both individual and collective voice, but satisfaction might have a weaker or even negative relationship with collective voice (as detailed in Figure 2). Socio-economic and demographic variables should act as seen in previous work (Verba et al 1995). In our empirical model we have broken down the elements of social investment. In order to define the model using social capital as an important intervening variable we need to decide what elements of social capital are needed. All too often social capital becomes a basket of characteristics that do not have straightforward theoretical justification for their use in predicting political activity. We have broken down social investment into a set of categories using Exploratory Factor Analysis (EFA) to guide the development of a model and defined the model using Confirmatory Factor Analysis. The precise details are given in Appendix A. The EFA analysis given in Tables A1-A3 in Appendix A suggest that group membership tends to nest together in three distinct clusters we term ‘political social capital’; ‘education-oriented social capital’ and ‘hobbies-oriented social capital’. This categorization into distinct forms of social capital is intuitively appealing as it is easy to imagine some involved in helping the elderly might meet others in health-related groups. This common sense finding has wider implications for the theory of social capital. If different groups of people have access to different forms of social networks then capital these groups

produce may impact differentially upon participation and other aspects of general social capital such as trust.

The leisure-oriented social capital is comprised of sports groups, hobby groups, and internet-based organizational membership and might be described as a 'masculine; form of social capital. Regression analysis confirms that this group is comprised primarily of younger men. Equally, women not in full-time work and with children under 16 are most likely to be involved in education activities. Older people with higher incomes, home owners and those not in full-time work were more likely to be involved in community groups and be in the politically-oriented social capital group. They were also more likely to know the names of their neighbours. Whilst not remarkable these categorizations suggest that people do possess different types of social capital and these may impact upon exit and voice responses.

Structural equation modelling (SEM) techniques are adopted here because they allow us to specify relationships between our latent factors (collective voice, social capital and satisfaction). SEM permits a more complex causal order than is possible using OLS and allows detailed modelling of relationships between variables, including correlated error terms removing bias caused by, for example, common question wording between items that make up the latent factors. The analysis is conducted using the LISREL programme. A number of our measures are ordinal rather than interval, which is a violation of the assumptions of SEM. We used LISREL's PRELIS programme to calculate polychoric correlations for our variables. Polychoric correlations assume that the variables are underlying normal and transform the data to approximate normality. The data is saved as a correlation matrix and the analysis is conducted upon this rather than the raw data (Joreskog 2002).

Figures 3 and 4 show the empirical models relating to the simplified theoretical model of Figure 2. Figure 3 maps the relationship of social investment to collective voice and Tiebout exit with the mediation of satisfaction. They demonstrate some of the relationships expected. Social investment (or loyalty) does seem to make Tiebout exit less likely. Those who know the names of their neighbours are less likely to intend to exit than those who do not.⁶ They are also more likely to voice collectively, demonstrating the relationship that Hirschman suggests.⁷ Knowing the names of your neighbours is highly indicative of local social investment. It might be associated with longer tenure at one's present address, but surely shows that one is a part of a local community. Being part of a local structure therefore seems to suggest that one is less likely to want to move. However, that relationship does not hold for all types of social capital that we measure. For example, one relationship that is not predicted by Hirschman's considerations is that we find a weak relationship whereby those who are more likely to collectively voice are also more likely to intend to exit.⁸ One or both of two factors might be at work here. First, we might be picking up a relationship over time. Due to dissatisfaction people may have collectively voiced in the past, but they have not been satisfied with the responses they have received. They then intend to exit (Dowding *et al.* 2000). We cannot examine that possibility at the present time, though the panel nature of our data (though only the first year is utilized in this paper) will eventually allow us to explore this possibility. However, a more likely explanation is that we are picking up an underlying active—passive psychological dimension as discussed in the EVLN model. Such as an active—passive dimension suggests that at any given satisfaction level some people are both more likely to exit, and more likely to collectively voice than others. They may be what are called 'noisy exiters' (Barry 1974). Hirschman (1993) himself

picked up this idea when he wrote about the last days of the German Democratic Republic, observing how emigrants, usually the younger and more active, used their forthcoming freedom as an opportunity to make a protest before leaving the country for the west. What is particularly interesting for us is that we observe the expected negative relationship for voting (Dowding and John 2007), but not for other collective forms of voice, which confirms our theoretical model – that depending on the type of voice we should expect different relationships to exit.

We note that the collective voice activities are associated with social capital variables. But most of these – with the exception of ‘know the names of your neighbours’ – is not specifically associated with investment in one particular neighbourhood. Thus such social capital is not necessarily associated with loyalty in the Hirschman sense. Furthermore, the existence of such a psychic dimension, also found in the work of Rusbelt and others which is not explained by other structural variables suggests the weak exit-voice trade-off that has been found might become greater if there are stronger incentives to exit and weaker ones to voice. At present the inert are allowed to free-ride on the activities of the active when it comes to collective voice activities from which both might benefit. But those same active people might choose to Tiebout exit if the conditions are right.

Conclusions

This paper has sought to find out about the relationships between variables that are at the core of Hirschman’s model in the context of urban services. At its base the model implies a negative relationship between exit and voice; but this is only the beginning of the analysis because such a relationship needs to be situated in the context of

different choices individuals face and that there are different types of these activities, in particular that voice may vary. Hence we develop and partially test here our three exit and three voice and loyalty framework, which we put in contrast to the main competing framework, Exit, Voice, Loyalty and Neglect (EVLN).

In addition to the more precise conceptualisation of exit and voice, main contribution the use of social capital as a form of social investment that will mediate the relationship between exit and voice. But one of the key problems of using social capital is that it refers or is based on different elements, which reflect different activities and interests of the individual. This is not to undermine the validity of using the concept, but that it is possible to get more fine grained models with more precise use of different aspects of the term. We used confirmatory factor analysis because we were able to test a model made of all the elements of social capital, which can be used in the final structural equation models. The SEM models confirm that complex relationships between exit, voice, satisfaction and social capital. In particular, we confirm our hypothesised relationship between satisfaction and exit and voice, and between social capital and exit and voice. But we find for the formal of collective voice we examine here has a positive relation to exit rather than the negative one hypothesised in Hirschmann's core work. We find instead that, when controlling for all relationship, there is a positive relationship, consistent with the conditions that give rise to noisy exit concept as elaborated in Hirschmann's later work. These results give affirmation to the schema behind the 3E3VL model, which is based on the differing properties of voice and their relation to exit.

Appendix A

An Exploratory Factor Analysis (EFA) was undertaken using the following variables:

SEDU children's educational and schools groups

SYOUT youth and children's activities

SADULT education for adults

SPORT sports and exercise groups including taking part, coaching or watching

SRELIGI religious groups

SPOLITICS campaigning groups, political parties

STU trades unions

SENVION environmental and animal welfare groups

SJUSTICE justice and social rights groups

SCITIZEN citizen groups

SLOCAL local community or neighbourhood groups

SELDERLY elderly groups

SHEALTH health, disability and social welfare groups

SSAFETY safety and first aid groups

SHOBBIES hobbies, recreation, arts and social clubs

SINTERE internet groups or chat-rooms

SOTHER other groups

NAMES knowing the names of neighbours

GENTRUST general levels of trust in others

There were six factors with eigenvalues greater than 1 and the proportion of the variance explained by the identified factor lies between 5 and 13 per cent as shown in Table A1.

[Tables A1 and A2 about here.]

Table A2 provides the component matrix of the identified factors. It suggests that the measures of social capital are not uni-dimensional but rather that agents form different types of networks contributing investment is different types of groups. The social capital rewards of different types of groups, might be expected to have differential effects upon general levels of trust and upon participation. Using the size of a loading to decide whether an item is significant in terms of a particular factor is arbitrary (Marsh and Richard 1987, p. 46) but we can attempt to make some distinctions between the items that measure the factors and then subject these to testing using CFA. The rotated factor matrix in Table A3 suggests which items load most strongly onto each factor. The three items with the highest loadings for component 1 are SPOLITICS, SENvironment and SJUSTICE. These groups can clearly be seen to be political in a narrow or traditional sense and hence we term 'political social capital.' For factor 2 are SEDU, SYOUTH and SRELIG. The first two are largely concerned with education. Given religion has the lowest loading we refer to these as 'education-oriented'. The highest loadings for Factor 3 are SSPORTS, SHOBBIES and SINTERNET, we refer to these as leisure-oriented. Factor 4 has the highest loadings in SELDERLY and SHEALTH, and we refer to these as 'health-oriented'. For Factor 5 we have SCITIZEN, SLOCAL and SSAFETY and we refer to these as

‘citizen-oriented local capital’. Factor 6 has highest loadings for NAMES and GENERAL TRUST and we refer to these as ‘general social capital’.

[Table A3 About here]

The model was then subjected to exploratory factor analysis. In analysis social capital should predict political activity and hence be distinct for it. But one of our measures of social capital is a political itself. We removed those from the social capital the political social capital factor. The data was then transformed using polychric correlations to permit the use of structural equation modelling with ordinal variables (Joreskop 2002). The one factor model was a poor fit to the data with the large sample size and large number of indicator variables likely to impede the fit of the model. In order to identify a solution a factor loading was set to 1 and the NAMES variable selected as it is a good indicator of local social capital. Internet groups was removed from the model as it was not significant. This give us a one factor model in Figure A1.

[Figure A1 About Here]

According to strict testing rules the first order factor model still does not fit the data, however using the RMSEA statistic the model is a ‘close fit’ (Brown and Cudeck 1993). We compare the one factor model and the first order model by the AIC. Here the lower the AIC the better fit to the data, and the AIC of the onr factor model is 2357.4 compared with 481.31 for the first order model showing this to be a much better fit to the data.

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Table 1: Characteristics of the survey

	%	
	Survey	Population
Men	50.3	48.6
Age (average)	42.9	38.6
Home ownership	61.5	70
Wales	5.4	4.9
Scotland	8.3	8.5

Source: Office of National Statistics

Table 2: Descriptive statistics of key variables

<i>Variable</i>	<i>Mean</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	<i>N</i>
<i>Social Investment</i>					
Know names of neighbours	2.19	.57	1	3	4077
Social trust	1.51	.50	1	2	3902
Group membership	1.79	1.88	0	16	3823
<i>Satisfaction</i>					
Service satisfaction	3.20	0.89	1	5	3710
Secondary School Satisfaction	4.214	1.501	1	6	4026
Primary School Satisfaction	4.547	1.283	1	6	4026
Quality of primary schools	3.92	1.03	1	5	2813
Quality of secondary schools	3.49	1.16	1	5	2860
<i>Exit</i>					
Private health	0.19	0.39	0	1	3768
Intention to move	3.4	1.58	0	5	3887
<i>Voice</i>					
Aggregated complaining	.733	1.311	0	13	3823
Aggregated participation	.544	.843	0	4	3823
Voted in local election	.748	.434	0	1	3717
Voted in general election	.804	.397	0	1	3776

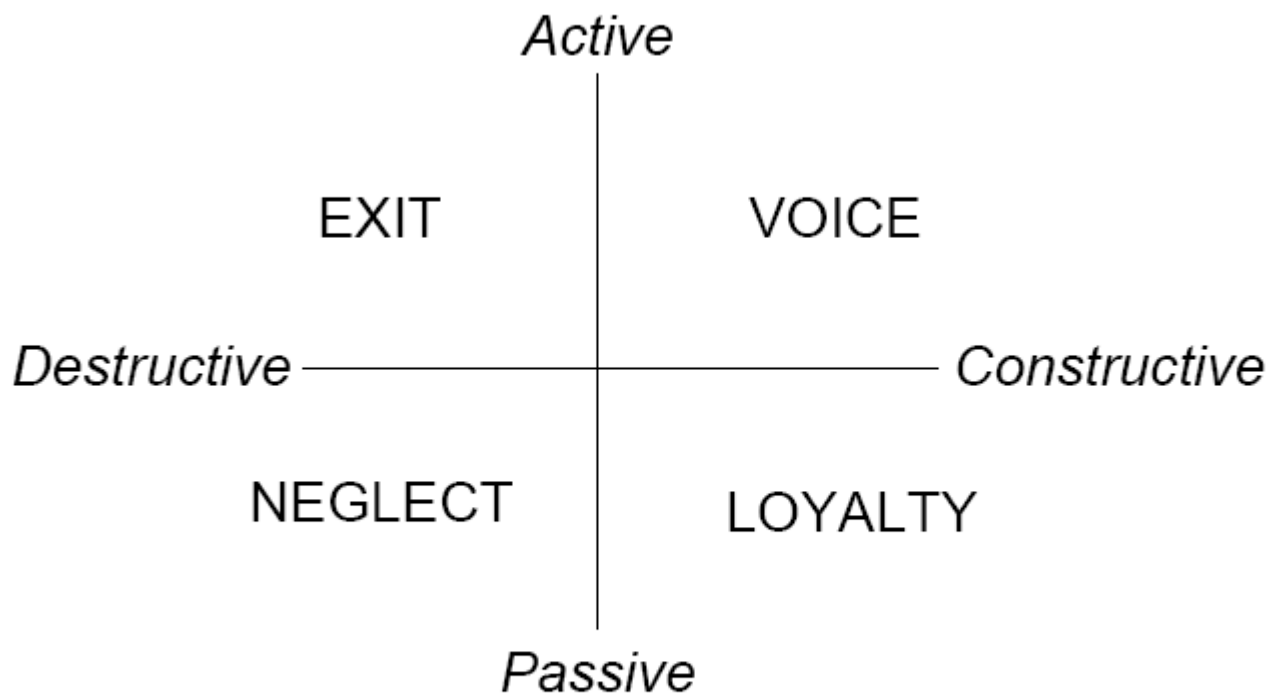


Figure 1: EVLN Model: modified from Lyons *et al.* 1992

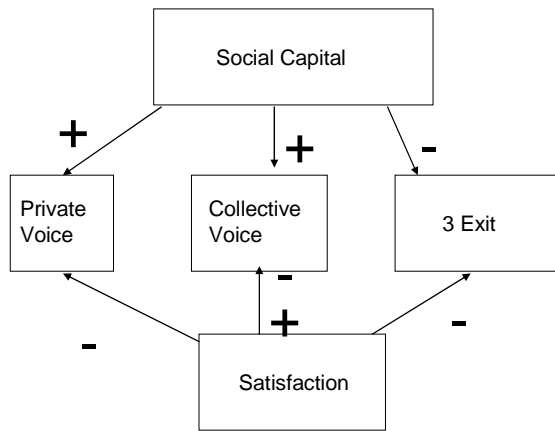
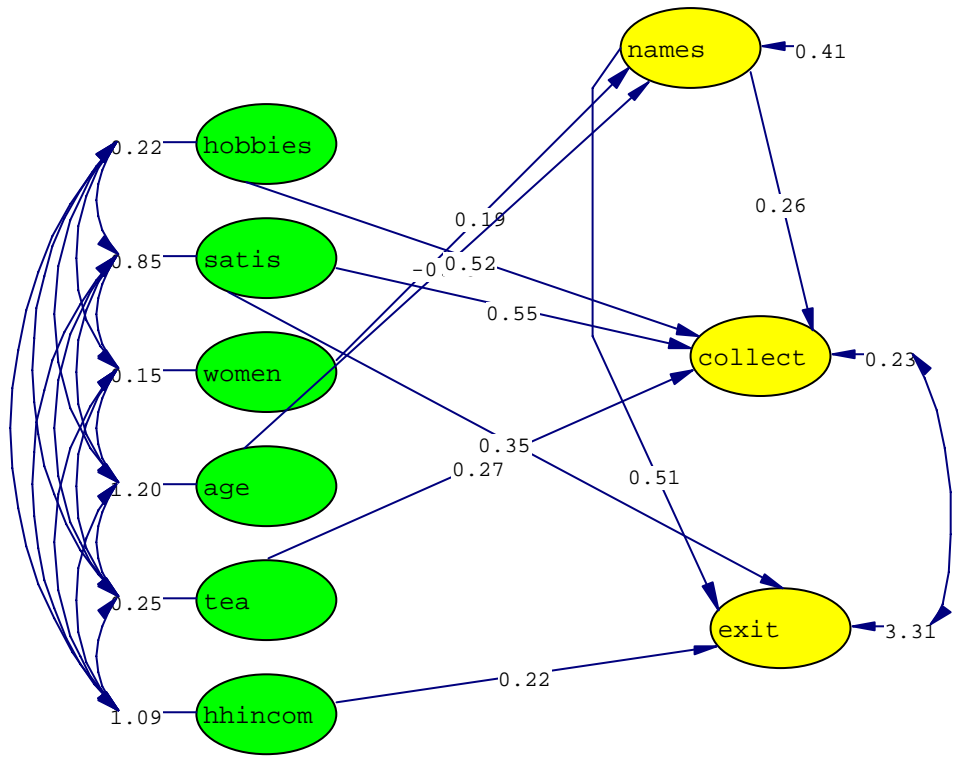
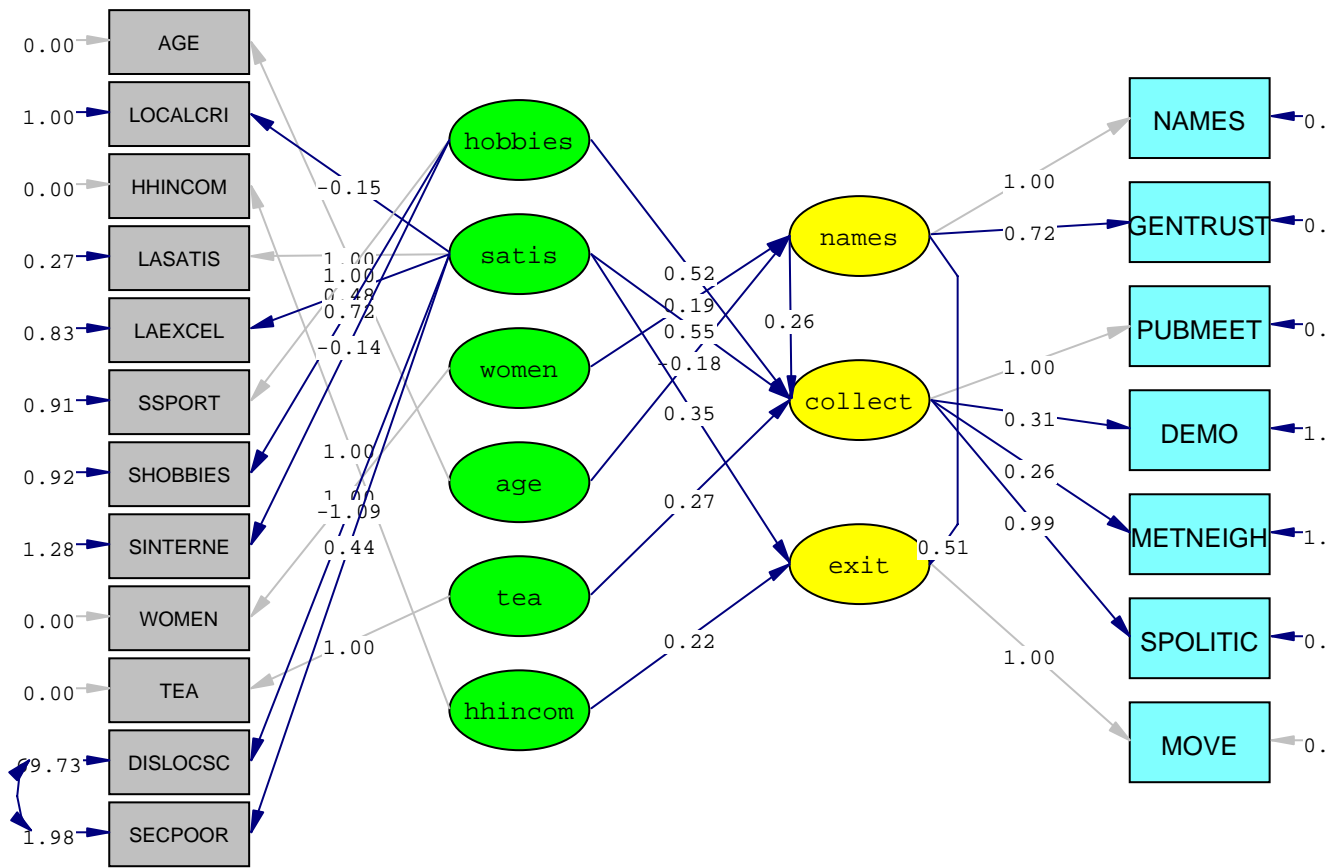


Figure 2: Basic Relationships Between Exit, Voice, Social Capital and Satisfaction





Chi-Square=2036.56, df=129, P-value=0.00000, RMSEA=0.076

Appendix A

Table 1: Total Variance Explained

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	2.499	13.152	13.152
2	1.432	7.536	20.688
3	1.295	6.817	27.505
4	1.178	6.200	33.705
5	1.062	5.589	39.294
6	1.026	5.401	44.695

Extraction Method: Principal Component Analysis.

Table 2: Component Matrix

	Component					
	1	2	3	4	5	6
names	-.206	.084	.460	.505	.072	.010
general trust	-.192	.030	.179	.614	.151	.177
sedu	.417	-.417	-.060	.036	.409	-.002
syouth	.414	-.441	-.050	.038	.350	.064
sadults	.399	-.104	-.076	.229	-.154	.051
ssports	.451	-.403	.232	-.087	-.218	-.043
srelig	.413	-.112	-.046	-.116	.239	-.164
spolitics	.432	.400	.278	-.234	.216	.190
stu	.268	.127	.276	-.003	.197	.429
senviron	.407	.324	.179	-.096	-.028	-.282
sjustice	.416	.432	.283	-.111	.230	-.153
scitizen	.324	.343	-.179	.086	-.119	.381
slocal	.417	.133	-.389	-.064	-.084	.218
selderly	.358	.226	-.406	.313	.019	-.273
shealth	.326	.247	-.264	.430	-.011	-.349
ssafety	.308	-.215	-.104	.284	-.051	.362
shobbies	.493	-.287	.192	.012	-.442	-.115
sinternet	.282	-.030	.487	.123	-.326	-.121
sother	.116	.159	-.120	-.063	-.390	.298

Extraction Method: Principal Component Analysis.

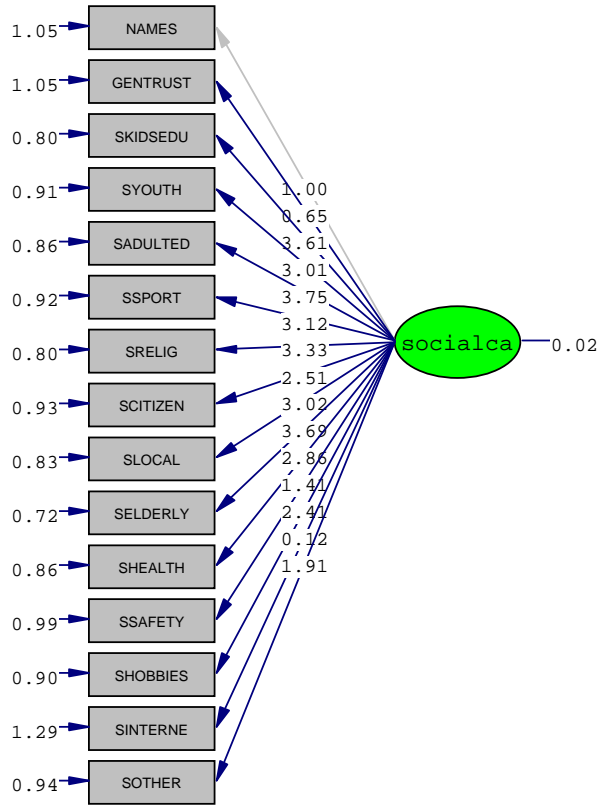
a 6 components extracted.

Table 3: Rotated Component Matrix

	Component					
	1	2	3	4	5	6
names	.058	-.125	.070	-.018	-.165	.686
generaltrust	-.111	.011	-.106	.063	.043	.686
sedu	.033	.715	.067	.048	-.011	-.029
syouth	-.002	.695	.103	.001	.047	-.019
sadults	-.024	.187	.294	.232	.276	.048
ssports	.025	.294	.605	-.090	.036	-.121
srelig	.220	.405	.088	.151	-.050	-.193
spolitics	.704	.083	-.001	-.105	.218	-.036
stu	.376	.183	.002	-.256	.315	.216
senviron	.506	-.053	.223	.256	-.051	-.121
sjustice	.707	.046	.048	.151	-.035	-.003
scitizens	.203	-.065	-.044	.129	.598	.004
slocal	.078	.127	-.022	.213	.507	-.276
selderly	.059	.093	-.037	.691	.151	-.053
shealth	.086	.032	.048	.722	.060	.093
ssafety	-.145	.302	.158	.032	.443	.179
shobbies	.004	.111	.725	.076	.110	-.119
sinternet	.209	-.097	.604	-.005	-.042	.185
sother	-.026	-.248	.126	-.040	.449	-.127

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 9 iterations.

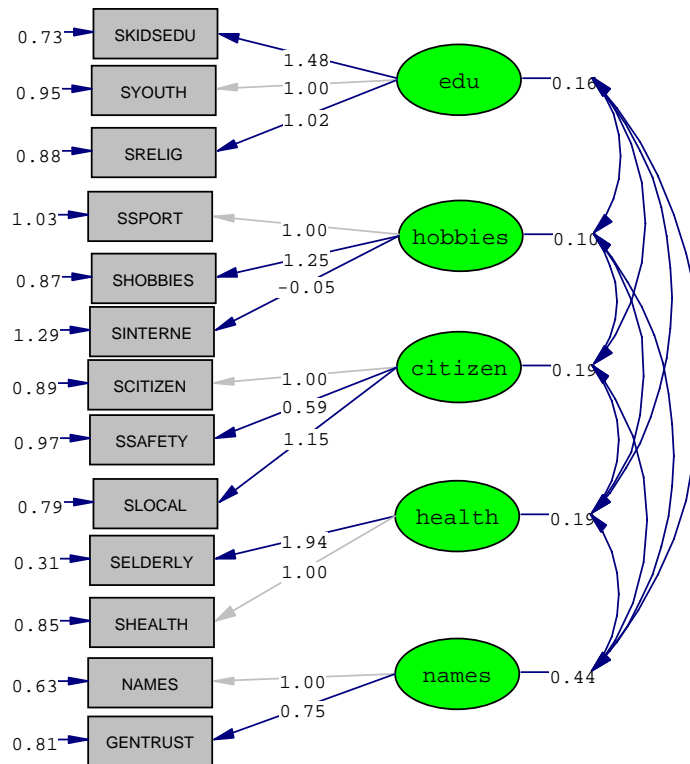
Figure 1: The One Factor Model
 Model AIC = 2357.40



Chi-Square=2297.40, df=90, P-value=0.00000, RMSEA=0.098

Figure 2: First Order Model

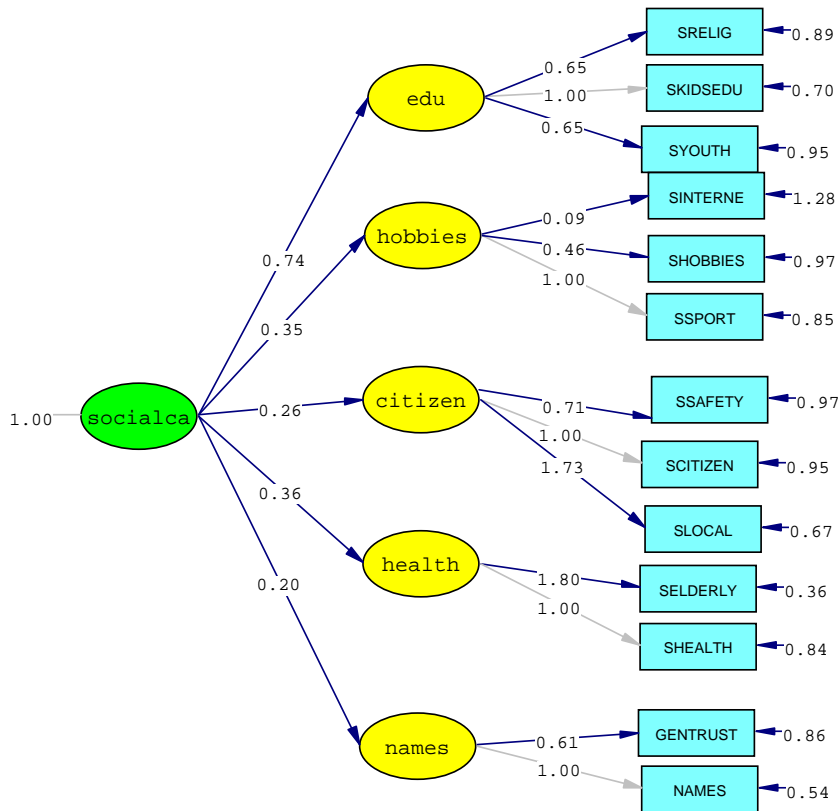
Model AIC = 481.31



Chi-Square=409.31, df=55, P-value=0.00000, RMSEA=0.050

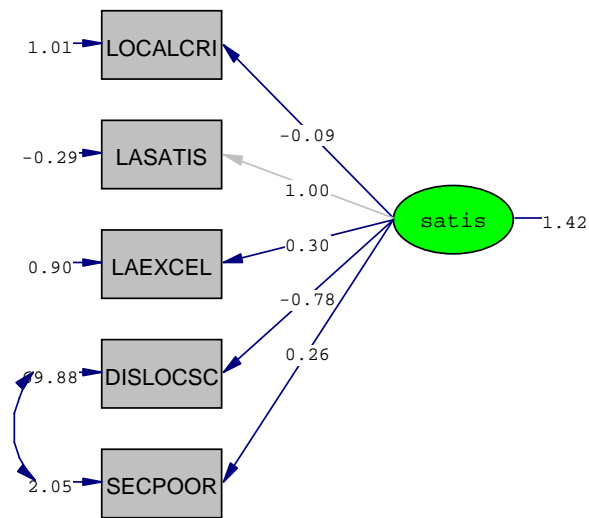
Figure 3: Second Order Model

Model AIC = 633.10



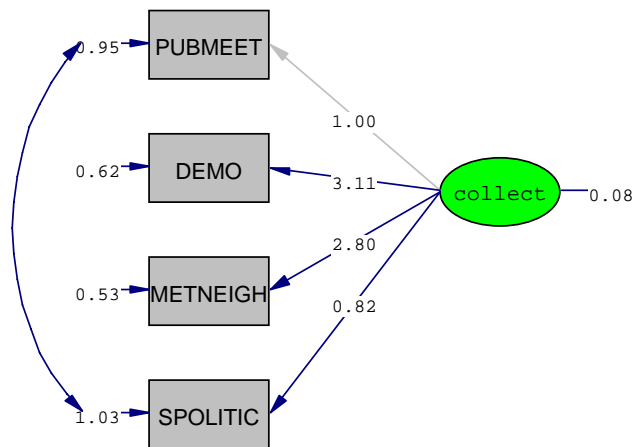
Chi-Square=571.10, df=60, P-value=0.00000, RMSEA=0.058

Figure 4: Satisfaction measurement model



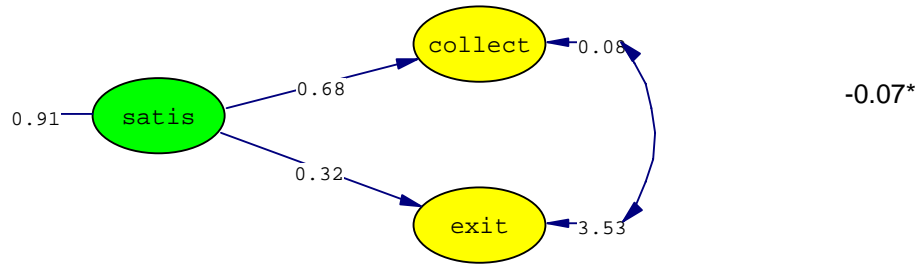
Chi-Square=13.74, df=4, P-value=0.00816, RMSEA=0.031

Figure 5: Collective voice measurement model



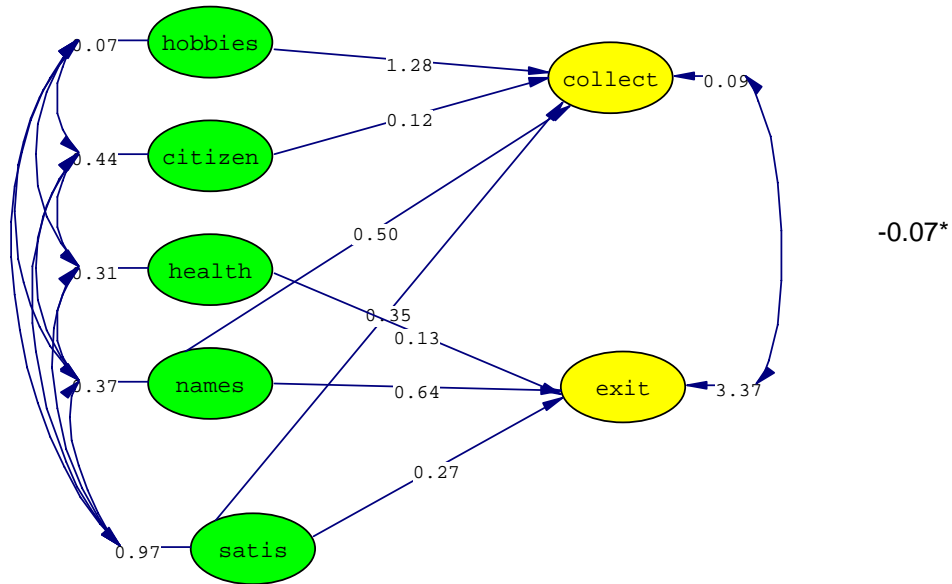
Chi-Square=15.49, df=1, P-value=0.00008, RMSEA=0.075

Figure 6: Exit, collective voice and satisfaction,¹ structural model



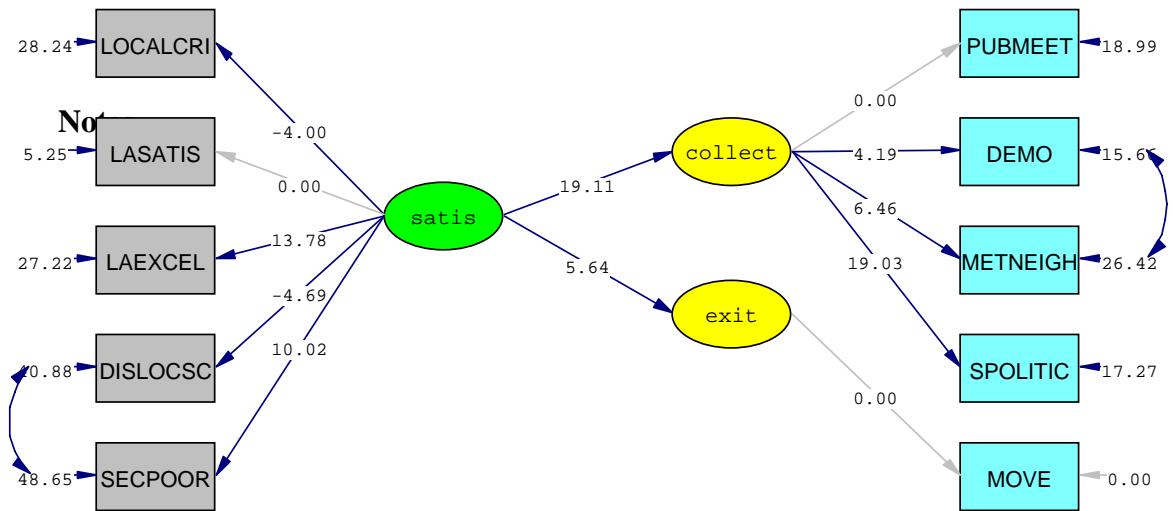
Chi-Square=489.87, df=31, P-value=0.00000, RMSEA=0.076

¹ The paths between satis and its indicators are not shown but are in appendix 1.



Chi-Square=2365.99, df=150, P-value=0.00000, RMSEA=0.076

Appendix 2: Satisfaction, collective voice and exit, full model



Chi-Square=489.87, df=31, P-value=0.00000, RMSEA=0.076

Notes

¹ The dataset is available from the authors or from the University of Essex data archive.

² This score has an average of 1.8 and a standard deviation of 1.8. The individual variables also scale, well having a Cronbach alpha of 0.62.

³ This has an alpha value of 0.53.

⁴ There are some other exceptions, for example Kato 1998 attempts to use the framework empirically.

⁵ The unit is the household but goods provided to the household include goods provided to particular individuals composing that household, such as an operation in a hospital.

⁶ The model AIC is 2158.56 when the parameter is free when the parameter (general social capital/names to exit) is fixed to zero the model AIC is 2187.58. We can therefore conclude that model fit is improved when the relationship between exit and general social capital is specified.

⁷ When the relationship between general social capital (names) and collective voice is set to zero the model AIC rises from 2158.56 to 2218.53, thus, including this relationship in the model improves model fit.

⁸ There is a small statistically significant error covariance between exit and collect with a coefficient of -0.15 indicating that those people who are more likely to raise

collective voice are also more likely to move. The model fit improves when this relationship is set to as the AIC increases from 2158.56 to 2177.67 showing the relationship is free.
