

**GOVERNMENT PERFORMANCE AND LIFE SATISFACTION
IN CONTEMPORARY BRITAIN**

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ABSTRACT**GOVERNMENT PERFORMANCE AND LIFE SATISFACTION
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This paper investigates relationships between public policy outcomes and life satisfaction in contemporary Britain. Monthly national surveys gathered between April 2004 and December 2008 are used to analyze the impact of policy delivery both at the micro and macro levels, the former relating to citizens' personal experiences, and the latter to cognitive evaluations of and affective reactions to the effectiveness of policies across the country as a whole. The impact of major political events and changes in economic context involving the onset of a major financial crisis also are considered. Analyses reveal that policy outcomes, especially micro-level ones, significantly influence life satisfaction. The effects of both micro- and macro-level outcomes involve both affective reactions to policy delivery and cognitive judgements about government performance. Controlling for these and other factors, the broader economic context in which policy judgements are made also influences life satisfaction.

GOVERNMENT PERFORMANCE AND LIFE SATISFACTION IN CONTEMPORARY BRITAIN

There has been a significant increase in studies of life satisfaction in recent years. Although work on this topic was pioneered by psychologists (e.g., Argyle, 1987; Diener and Suh, 2000; Kahneman, Diener and Schwarz, 1999; Mullis, 1992; Near and Rechner, 1993), much of the recent research has been done by economists and political scientists (e.g., Bruni and Porter, 2005, 2007; Easterlin, 2002, 2004; Frey, 2008; Frey and Stutzer, 2000, 2002, 2005; Helliwell, 2006; Lane, 2000; Layard, 2005; Lane, 2000; Mueller, 2009; Nettle, 2005). Some of these studies have begun to investigate the role of the state in influencing subjective well-being.¹ As yet the literature on this topic is small, but it has produced some interesting findings. For example, Frey and Stutzer (2000, 2005) demonstrate that levels of life satisfaction in Swiss cantons with high levels of political autonomy and extensive opportunities for citizen participation are greater than in cantons lacking these characteristics. These Swiss findings are an example of what Frey (2008:107-26) calls 'procedural utility', i.e., the satisfaction derived from taking part in politics which is not necessarily related to outcomes.² However, evidence that life satisfaction is positively related to the extent of political involvement does not mean that citizens' reactions to public policy outcomes are inconsequential. In the present paper, we investigate the relationship between policy outcomes and life satisfaction in one major mature democracy—Great Britain.

To date, most of the research on subjective well-being has concentrated on relationships at a single point of time, usually in a cross-national comparative setting (e.g., Helliwell, 2006; Helliwell and Huang, 2008; Oswald, 1997; but see also Di Tella, MacCulloch and Oswald, 2003). In contrast, the present analysis is dynamic, covering the

April 2004 to December 2008 period. We examine the role of policy delivery both at the micro and macro levels, the former relating to citizens' personal experiences, and the latter to their cognitive evaluations and emotional reactions to the effectiveness of government policies in the country as a whole. In addition, we examine mechanisms that link policy delivery to life satisfaction. A dynamic perspective enables us to investigate how a worsening economic context, in the form of an international financial crisis and a looming recession, can affect life satisfaction net of reactions to policy outcomes and other individual-level influences.

Theoretical Issues

The growing literature on factors that affect life satisfaction has produced a number of findings. In a popular exposition of this emerging field Layard (2005:63) designates the 'Big Seven' predictor variables that typically exert significant effects in multivariate analyses. These variables relate to family relationships and individual financial security, as well as people's work experiences, their community ties and friendships, health, personal freedom and individual values. The list is quite broad, covering most aspects of life but, as noted above, political processes and outcomes have not received a great deal of attention.

It is a fundamental tenet of democratic theory that political structures and processes have sizable direct and indirect effects on citizens' quality of life and their sense of subjective well-being (e.g., Dahl, 1972; Lane, 2000; Macpherson, 1977; Pateman, 1970). Recent research by Helliwell (2006) supports this conjecture. Using data gathered in a large number of countries, he examined the relationship between life satisfaction and governance indicators developed by World Bank economists (Kaufmann, Kraay and Mastruzzi, 2003). Helliwell's analysis revealed significant differences between developed and developing countries. It appears that honest and efficient government are quite

important factors in developing countries, whereas voice and accountability, i.e., measures of the quality of the democratic process, are relatively more influential in the developed world (Helliwell, 2006; see also Helliwell and Huang 2008). The former factors are linked closely to policy outcomes and the delivery of services, and the latter, to the process of democracy itself. Overall, Helliwell's research suggests that citizens' sense of political efficacy, i.e., their perceived ability to exert political influence, should help to explain subjective well-being in a mature democracy such as Britain.

Although these findings lend credence to the hypothesis that processes providing for public representation and involvement have important effects on citizens' procedural utilities, effective public services and successful economic policies also have a large impact on subjective well-being. This is because, apart from the episodic act of voting, most people never participate in politics, with activities such as protesting and party work being the preserves of small minorities (e.g., Barnes and Kaase, 1979; Verba, Schlozman and Brady, 1995; Pattie, Seyd and Whiteley, 2004). High rates of non-participation in most types of political activity will limit the extent to which individuals experience procedural utility. In contrast, all citizens are recipients of public services in one form or another, so it can be conjectured that reactions to public service delivery will have significant impacts on how most people feel about their lives.

Another reason why policy delivery should matter is that current and anticipated policy outcomes have very important influences on voting behaviour in countries like Britain (Clarke et al. 2004, 2009). In particular, what Stokes (1963) called valence issues have large effects on why people decide to support one party rather than another. Valence issues are ones for which there is a wide consensus about policy objectives, e.g., delivering economic prosperity, reducing crime, obviating the threat of terrorism, and providing

affordable, high quality health care. Political disputes involving valence issues focus on 'who' and 'how' rather than 'what', i.e., which party and which party leader are best able to deliver consensually agreed-upon objectives. Since valence issues typically are highly salient and people are continually being asked to judge politicians and parties in terms of their ability to deliver highly valued goods and services, these issues will focus public attention in ways that influence people's sense of subjective well-being.

Findings concerning the role of process utility in developed countries notwithstanding, it is possible that policy outcomes have larger effects than government processes on subjective well-being. Although political efficacy provides a psychological basis for generating procedural utility and has a significant effect on voting turnout and other forms of citizen involvement (Pattie, Seyd and Whiteley, 2004), efficacy has remained consistently low in Britain over the four decades for which national survey data are available (Clarke et al 2004:ch.8)³. If many people remain sceptical about their ability to influence government and opportunities for meaningful citizen involvement are episodic and limited, then the quality of public service delivery—something that is practically always on the 'front burner' of political debate and is experienced in various ways by everyone everyday—may be more important than a sense of (in)efficacy.

A final reason for believing in the significance of policy outcomes is that they are related to the 'Big Seven' items that influence life satisfaction mentioned earlier. If, for example, health has major effects on subjective well-being, then health care also should be quite important. If financial security and employment are influential, then so should be the economic policies that influence these factors. Equally, perceptions of personal freedom are likely to be enhanced by crime-free streets and the absence of terrorist threats. Taken together, these several considerations prompt the first hypothesis:

H1. Reactions to policy outcomes at the micro and macro levels should have significant effects on life satisfaction.

When considering the impact of policy delivery, it bears emphasis that this can be evaluated either at the macro or micro levels. The former relate to evaluations of government performance across the country as a whole whereas the latter relate to direct personal experiences of receiving services provided by the state. At the macro level, citizens make sociotropic judgements (Kinder and Kiewiet, 1981) about policies relating to the economy and public services. A wealth of research shows that the condition of the national economy influences voting behaviour and party support in the interims between elections (e.g., Alesina and Rosenthal, 1995; Anderson, 1995; Duch and Stevenson, 2008; Lewis-Beck, 1988; Norpoth, Lewis-Beck and Lafay, 1991; Whiteley, 1986). Accordingly, one might expect national economic evaluations to play a role in explaining life satisfaction as well.

It also is also the case that political issue agendas have dynamic properties. There has been a significant shift in the issue agenda in Britain over the past decade, with topics associated with personal security such as crime and terrorism gaining salience and competing with traditional issues concerning economic performance and public service delivery (Clarke et al., 2009). Accordingly, it is important to assess the impact of various non-economic policy outcomes on subjective well-being. The economy is important, but it is not all.

Public evaluations of macro-level policies may be partly the product of personal experience, but they also are influenced by other factors including media coverage and the political context in which policy performance judgements are formed (Mutz, 1998). In contrast, micro-level judgements are all about personal experience as citizens interact with

public officials and other agents of the state (e.g., National Health Service physicians) on a day-to-day basis. If an individual calls the police to report a crime, visits their NHS doctor, talks to their children's teacher in a state school, or attends a job centre if they become unemployed, they are dealing with agents of the state. Citizens' reactions to the effectiveness of these micro-level services are direct and unmediated (Pattie, Seyd and Whiteley, 2004). At this level, policy delivery is ever present in peoples' lives, and for this reason it arguably will have a greater influence on life satisfaction than macro evaluations of the economy or public services. Policy outcomes in this context are not episodic and remote, but a frequent, even daily, personal experience for most people. Given this, reactions to the delivery of micro-level services may differ from, and be more important, than those related to national policy performance. This suggests a second hypothesis:

H2. Both micro- and macro-level policy outcomes will exert significant influences on life satisfaction. However, micro-level policy outcomes will be more important than their macro-level counterparts.

When individuals make macro-level judgements about policy delivery they face a number of problems compared to the situation where they are making micro-evaluations. To evaluate complex policy processes of which they may have limited experience, average citizens will require heuristics or rules of thumb to simplify their task. There are debates about the effectiveness of such heuristics as devices for processing complex information. Gigerenzer (2008) argues that the use of what he calls 'fast and frugal' heuristics can be more effective than full-information processing because the latter is often computationally intractable or lacks robustness when it comes to actual decision-making. Other researchers are content to argue that heuristics can approximate the effectiveness of full information processing (e.g., Lupia, 1994; Popkin, 1991; see also Gigerenzer and Todd, 1999). Still

others contend that heuristics can badly distort effective decision-making (Allwood and Montgomery, 1987; Kuklinski and Quirk, 2000, Lavine and Gschwend, 2006).

Perhaps most important in the context of making judgements relevant to an emotionally charged matter such as life satisfaction is the affect heuristic (Sniderman et al. 1991). This heuristic is very easy to apply to the task of evaluating macro-level policies. For example, if citizens conclude that a governing party is managing the economy effectively because economic policies score positively on a subjective ‘feel good’ factor, this solves their decision-making problem. They are likely to reward that party with their support, even though they have no clear understanding of how economic policymaking works or why the government has done a good job. All they know—all they need to know—is that they feel good about how the economy is faring.

Affective reactions as cue-giving devices for evaluating the national economy have been examined in the voting literature for several years and the consensus is that they have a positive effect on political support (Clarke et al., 2004; Conover and Feldman, 1986; Marcus, Neuman and MacKuen, 2000). Moreover, recent research on affective decision-making suggests that the use of this type of heuristic is widespread and it acts as an effective pre-processor for cognitive evaluations (Neuman et al., 2007; Nussbaum, 2001). Accordingly, a third hypothesis is:

H3. Both cognitive evaluations and affective reactions to policy outcomes will influence life satisfaction. However, affective reactions are likely to be more important when citizens consider macro-policy outcomes.

As discussed above, to study the impact of the political process on subjective well-being we need to consider citizens’ evaluations of their ability to play a meaningful role in that process. If people have a strong sense of political efficacy, i.e., they believe that they

can influence how political decisions are made, this should increase their subjective well-being. In this regard, recall that Helliwell (2006) has shown that opportunities for widespread citizen involvement in political life have significant effects on feelings of subjective well-being. We conjecture that the mechanism by which such opportunities influence subjective well-being is that such opportunities enhance citizens' sense of political efficacy. This is consistent with findings in psychology indicating that a sense of personal empowerment has significant effects on life satisfaction (e.g., Peterson, 1999) and arguments advanced by participatory democratic theorists such as Macpherson (1977) and Pateman (1970). Accordingly, we hypothesize:

H4a. Political efficacy has a significant positive effect on life satisfaction.

And, recalling our earlier discussion, we also hypothesize:

H4b. The effect of efficacy on life satisfaction will not be as strong as effects associated with policy reactions.

Finally, the broader political and economic contexts in which citizens find themselves are also likely to influence their sense of subjective well-being. In this regard, the economic voting literature documents that objective measures of the economy like unemployment and inflation rates can have significant influences on political support over and above voters' subjective evaluations of national and personal economic conditions (Lewis-Beck, 1988; Norpoth, 1992; Nadeau, Niemi and Yoshunaka, 2002; Sanders et al., 2001). Of course, if there is little variation in these macroeconomic measures over time because the economic context is quite stable, then there is unlikely to be much of an impact. But, in the latter part of the period considered in our analyses, the British economy headed into recession along with much of the industrialised world, following a major crisis in the financial system. In the British case, this crisis was signalled by the failure of the

Northern Rock Bank in the autumn of 2007. The ensuing change in the economic environment after a decade of good times enables us to test a fifth hypothesis:

H5. Changes in the prevailing economic context will influence life satisfaction.

In addition, political and economic events may have an impact on life satisfaction. Highly salient events such as general elections and the replacement of a controversial and increasingly unpopular prime minister are examples of political interventions in a democratic polity that might affect people's sense of subjective well-being. *A fortiori*, widely publicized and emotionally evocative political 'shocks' may prove influential. In the period under consideration such events include the horrific 7/7 terrorist bombing in London in July 2005 and the aforementioned collapse of the Northern Rock bank in October 2007. The hypothesis is:

H6. The occurrence of highly salient political and economic events will influence life satisfaction.

Research Design

We test the hypotheses articulated above with data generated by the Continuous Monitoring Survey (CMS) component of the British Election Study⁴. The CMS is an ongoing internet-based sequence of national surveys of the British electorate using independent cross-sectional samples averaging 1,275 respondents per month. The CMS data employed here were gathered between April 2004 and December 2008, giving a total of nearly 70,000 respondents over a period of 55 months⁵. These individual-level data are supplemented with monthly data on inflation and unemployment rates which enable us to model the effects of the changing economic context. Dummy variables are used to tap the effects of the political and economic events mentioned above. The effects of the several

aggregate-level variables are assessed using multi-level modelling techniques (e.g., Raudenbush and Bryk, 2002; Snijders and Bosker, 1999).

Modelling Life Satisfaction

During the period of the study (April 2004-December 2008), moderate levels of life satisfaction were the norm in Britain. On average, nearly two-thirds of the CMS respondents stated that were 'very' or 'fairly' satisfied with their lives. However, as Figure 1 illustrates, only a relatively small number (11.7%) indicated that they were 'very satisfied'. Many more (52.9%) said they were 'fairly satisfied'. Respondents who were 'a little dissatisfied' constituted slightly over one-quarter (27.1%) of the sample, and less than one person in ten (8.4%) said that they were 'very dissatisfied'.

(Figure 1 about here)

Figure 2 shows the percentage of people who said they were at least fairly satisfied with their lives in each of the monthly surveys conducted over the four-and-one-half year period. The series is clearly stationary⁶ and exhibits only modest variation over most time periods, with neither the 2005 general election nor the 7/7 terrorist attack occasioning discernible movement in the aggregate level of life satisfaction. In contrast, the replacement of Tony Blair as prime minister by Gordon Brown prompted a modest and temporary upward pulse. A much larger, abrupt downward movement occurred in October 2007 when life satisfaction fell significantly (by over 10%) for two months. This decrease coincided with the first visible signs to the general public of the emerging economic crisis in Britain, which was dramatized by the run on Northern Rock, one of Britain's major banks. This was the first such event in Britain in more than 150 years, and it received enormous publicity. Tellingly, in the same two months there was a significant increase in the percentage of respondents who said that they felt 'afraid' when they thought about the

general economic situation of the country⁷. This strongly suggests that the sudden drop in life-satisfaction was driven by the Northern Rock crisis. The larger implication is that contextual variables can have significant effects on subjective well-being.

(Figure 2 about here)

We employ individual and multi-level models to test the hypotheses of interest. Data for individual respondents are at level one, and monthly measures of inflation and unemployment rates from April 2004 to December 2008 are at level two. Additional level two variables include 0-1 dummies indexing the occurrence of the political and economic events discussed above. The individual-level model is a standard ordinal logit (Long, 1997). The multi-level model is specified as follows:

$$\mathbf{Y}_i = \mathbf{X}_i \boldsymbol{\pi}_i + \mathbf{r}_i \quad \text{Level (1)}$$

$$\boldsymbol{\pi}_i = \mathbf{W}_i \boldsymbol{\gamma}_i + \mathbf{u}_i \quad \text{Level (2)}$$

where:

\mathbf{Y}_i is a vector of life satisfaction measures

\mathbf{X}_i is a n_j by $Q + 1$ matrix of predictor variables

$\boldsymbol{\pi}_i$ is a $Q + 1$ by 1 vector of unknown parameters

\mathbf{r}_i is a n_j by 1 vector of random errors

\mathbf{W}_i is a $Q + 1$ by F matrix of predictors

$\boldsymbol{\gamma}_i$ is an F by 1 vector of fixed effects

\mathbf{u}_i is $Q + 1$ by 1 vector of level two random errors

We assume that $\mathbf{r}_i \sim \mathbf{N}(\mathbf{0}, \boldsymbol{\sigma}^2 \mathbf{I})$ and $\mathbf{u}_i \sim \mathbf{N}(\mathbf{0}, \mathbf{T})$

In this model, the matrix of predictors, \mathbf{X}_i consists of variables measuring respondents' reactions to public policy delivery, together with a set of control variables that capture effects of several other influences on subjective well-being, as discussed in the

literature review above. Since life satisfaction is measured as an ordinal variable, we again use an ordered logit specification for this multilevel model. The latent dependent life satisfaction variable is η_i

where

$$\eta_i = \log[\text{Prob}(Y \leq m) / \text{Prob}(Y > m)]$$

and $m = 1, 2 \dots M - 1$ ordered categories

Details regarding predictor variables are presented in Appendix I, but they will be briefly discussed here. Judgements about national and personal economic conditions are separated from other policy performance measures in order to identify distinct effects. Evaluations of national economic conditions are tapped by two variables measuring retrospective and prospective evaluations. In general, respondents were fairly pessimistic about the performance in the recent past and its future prospects, with only 14% thinking that the economy had improved over the previous year and also thinking that it would improve in the future. For purpose of the multivariate analyses, these items were combined into a single index.

A second predictor variable involves evaluations in four non-economic policy areas— asylum-seeking (immigration), crime, health-care and terrorism. Although these evaluations focus a relatively disparate set of issues, a principal components analysis revealed that they can be considered indicators of a single underlying latent variable⁸. This variable provides a global measure of security evaluations, which in the mind of the British public, link concerns about crime together with health care, immigration and the threat of terrorism.

Emotional reactions in various policy areas were included in the analysis to test the importance of affective heuristics. These reactions were measured by asking respondents to choose various descriptors relating to the issue in question. The list included four positive and four negative descriptors. Positive ones were: 'hope', 'confidence', 'pride' and 'happiness', and negative ones were 'anger', 'fear', 'disgust' and 'unease'. The affective variables measured the number of positive minus the number of negative descriptors selected by each respondent. An index capturing affective reactions to the economy was utilized on its own, whereas affective reactions to security concerns in the areas of crime, health care, immigration and terrorism were combined into an overall scale using a principal components analysis which yielded a one-factor solution.⁹

To measure evaluations of micro-level policy performance, respondents were first asked if they had any personal experience in a particular policy area during the previous twelve months. For example, if respondents or an immediate member of their family had sought assistance from the police following a crime committed in their home or in their neighbourhood, this would constitute a personal experience. Respondents with this experience were then asked if they were satisfied or dissatisfied with the way that the authorities had dealt with the situation. Answers to these questions provided a direct measure of public evaluations of policy delivery 'on the ground'. Similar questions were asked about contact with medical professionals in the National Health Service, experiences with anti-terrorism measures such as being searched in an airport, and contacts with asylum-seekers. Each question was followed by a probe asking about reactions to the experience. A principal components analysis indicated that these several measures could be combined into a single scale. The resulting factor-score variable provides an overall measure of satisfaction with policy delivery relating to a variety of security concerns.¹⁰

Personal experience with the economy was assessed using two questions, equivalent to those used to tap national economic evaluations. These retrospective and prospective judgments of the financial situation of a respondent's household were combined into an egocentric economic evaluation variable. A second indicator of personal economic experience, (un)employment status, was also included. As per the discussion above, earlier research indicates that joblessness has a strong negative impact on life satisfaction. Finally, procedural utility arising from a sense of political efficacy was measured by asking respondents to use an 11-point scale to indicate the extent to which they believed that they could influence politics and public affairs.

Overall, the life satisfaction model contains indicators of policy evaluations at the personal and national levels. It also includes controls for several other factors which previous research indicates have important effects on subjective well-being. Marital relationships were assessed by 0-1 dummy variables indicating if the respondent was single, divorced, living with a partner but unmarried or widowed (the reference category was comprised of those who were married). Financial security was assessed using annual family income and home ownership. Work experience was measured by occupational status and retirement status. Community ties were captured by whether one performed voluntary work in one's neighbourhood, and also by sense of interpersonal trust which is a key indicator of social capital (Coleman, 1990; Putnam, 2000). Personal health was captured by a dummy variable indicating if a respondent was disabled. Gender, ethnicity and age were also included in the model as additional controls.

The contextual (aggregate) level of the model included six variables. Two measures of the objective state of the economy, inflation and unemployment rates, were incorporated to capture variations in the economic context. Given that previous research

has found that individual unemployment has a strong effect on life satisfaction, it is important to assess the impact of aggregate unemployment as a measure of the economic context. In addition, a 0-1 dummy variable was constructed to capture the impact of the arrival of the economic crisis in Britain. This was the run on Northern Rock which occurred in October and November 2007. A second dummy variable coinciding with the general election of May 2005 was included to explore the effects of a national election—a major symbol of the democratic *bona fides* of the British political system—on subjective well-being. A third dummy variable was used to study the impact of the replacement of an incumbent prime minister. This event occurred in June 2007 when the unpopular Tony Blair exited 10 Downing Street in favor of Gordon Brown who, at the time, was greeted with wide public enthusiasm. A fourth, final, dummy variable indexed the occurrence of the 7/7 terrorist bombings in London in July 2005.

Empirical Results

A first step in the analysis involved estimating the model of life satisfaction with individual-level data pooled across the entire period. This can be used to test the first four hypotheses discussed earlier. The results appear in Table 1, which contains the coefficients from the single-level ordered logistic regression model. To facilitate interpretation, the impact of each predictor on the probability of individuals being at least fairly satisfied with their lives is depicted in Figure 3. This figure shows the change in the probability of being 'very' or 'fairly' satisfied with life as each predictor is varied across its range with other predictors set at their mean values.¹¹

(Table 1 and Figure 3 about here)

The first hypothesis stated that micro- and macro-level policy outcomes were likely to have important influences on subjective well-being. Estimated coefficients are

consistent with this hypothesis (see Table 1). With the sole exception of the measure of cognitive evaluations of national economic conditions, all of the policy indicators, both at the micro and macro levels, have statistically significant ($p < .001$) and properly signed effects on life satisfaction.

The second hypothesis, which states that micro-level outcomes will have stronger effects than macro-level ones is also supported. As Figure 3 shows, increasingly positive personal economic evaluations can enhance the probability of being satisfied with one's life by .49 whereas, as noted in the preceding paragraph, the impact of national economic evaluations is statistically insignificant. The story for non-economic policy evaluations is quite similar. As micro-level (personal) policy evaluations increase from negative to positive, the probability of being at least fairly satisfied with life increased by .37. The comparable increase for macro-level (national) policy evaluations is much smaller, .18. Satisfactory personal treatment by an agent of the state is more important to citizens than believing that the government has done a good job in managing policies at the national level.

The third hypothesis states that, at the macro-level, individuals would rely heavily on an affect heuristic when making judgements about policy performance. This hypothesis is supported up to a point, but it is more apparent in the case of the economy than for evaluations of personal security. As noted, net of other considerations, cognitive economic evaluations do not have a significant impact on life satisfaction. However, as Table 1 shows, the effects of affective economic evaluations are both positive and statistically significant. With other predictors held at their means, variations in affective reactions to the economy can change the probability of being (dis)satisfied with one's life by .17 points (see Figure 3). These results suggest that, in relation to the national economy, citizens rely

mainly on an affect heuristic. Regarding personal security, the affect heuristic is significant since affective reactions have a significant, positive impact on life satisfaction, but cognitive evaluations have a similar effect. And, as Figure 3 illustrates, the size of these effects are also similar. *Ceteris paribus*, affective reactions can alter the probability of being satisfied by .15 points, and cognitive ones can do so by .18 points. These results indicate that citizens rely on both affective and cognitive evaluations when they are judging the impact of non-economic policies on their subjective well-being. Cognitions are not all; rather ‘gut’ feelings about policies are a significant source of life satisfaction.

Part A of the fourth hypothesis stated that sense of political efficacy is positively related to life satisfaction. Again, this hypothesis receives empirical support, with the efficacy coefficient having the expected positive and statistically significant ($p < .001$). However, as conjectured in part B of hypothesis four, the effect of political efficacy is not as great as those associated with cognitive and affective reactions to macro- and micro-level policy outcomes. With other predictors held at their means, variations in efficacy produce only a .05 point change in the probability of being (dis)satisfied with one's life (see Figure 3). The comparable figures for policy reactions vary from .15 (non-economic policy evaluations) to .49 (personal economic evaluations).

Finally, all control variables behave as expected. Regarding family relationships, being single, divorced or living with an unmarried partner all reduce life satisfaction relative to being married, although living with a partner has a smaller effect than being divorced, single or widowed (see Table 1 and Figure 3). Financial security is also clearly important since income and home ownership are both positive predictors. Work experience as captured by occupation and retirement status both increase life satisfaction. Equally, community ties matter since interpersonal trust has a very strong influence on

subjective well-being. *Ceteris paribus*, increasing social trust can enhance the probability of being fairly or very satisfied with one's life by .38 points (Figure 3). Voluntary activity in one's neighbourhood also has a positive impact the likelihood of being at least fairly satisfied, albeit a considerably more modest one (.05 points). These findings are consistent with the idea advanced by Putnam (2000) and others that social capital enhances life satisfaction. Health, gender and ethnic minority status also exert statistically significant effects. Persons with disabilities, women and ethnic minorities tend to have lower levels of life satisfaction, although the latter two effects are quite modest. Finally, age reduces life satisfaction, but the quadratic specification means that the effect diminishes, and then reverses very slightly, among the very elderly.

The fifth and sixth hypotheses are tested by incorporating aggregate-level variables in the model using the multi-level specification described above. The first step in this analysis is to determine if there are significant shifts in life satisfaction over time, even when the various predictors in the individual-level model have been taken into account. A chi-square test of the variance of a random intercept term in the ordered logistic regression is highly significant ($\chi^2 = 467.16$, $df = 54$, $p < .001$), indicating that individual-level subjective well-being does indeed change over time even with all of the individual-level variables in place¹². This finding is consistent with the general proposition that contextual covariates may play role in determining levels of life satisfaction..

The expectation is that rising unemployment will reduce life satisfaction so that the strong individual-level effects associated with being unemployed documented in Table 1 should be replicated at the aggregate level. However, unemployment accelerated towards the end of 2008 as the global financial crisis began to influence the real economy in Britain. In these circumstances we might expect unemployment to have a negative but

non-linear effect on life satisfaction as joblessness accelerated. This non-linearity may be seen as an aggregate-level analogue to a process of *hedonic adaptation* which is said to occur as individuals adjust their level of life satisfaction to changes in personal circumstances such as increases in personal income (Brickman and Campbell, 1971).¹³ Here, the idea is that individuals may adapt to a new economic context and so begin to get used to new levels of unemployment as it gets worse. To investigate this possibility, the effect of unemployment is examined by means of a quadratic specification.

The effects of inflation on life satisfaction are less clear cut. Although people dislike inflation, British consumers have grown used to rather low levels of inflation in recent years. Given this, modest price increases may very well signal a buoyant economy rather than a threat to purchasing power. If there is an unrealized inflationary threshold which has to be crossed before it is perceived to be a serious problem, then price changes may not be important as contextual measures. Other aggregate-level covariates include dummy variables for the Northern Rock crisis, the 2005 general election, the 7/7 terrorist attack and the arrival of Gordon Brown as prime minister in the summer of 2007. These aggregate effects are all investigated by means of a random intercepts specification, in which the coefficients of the aggregate-level model capture possible shifts in the intercept of the individual-level model.

The results are shown in Table 2. Controlling for all other predictors, the Northern Rock crisis did have the predicted negative effect on life satisfaction. It is also apparent that rising unemployment reduced subjective well-being in a highly significant way but with a declining impact as the quadratic term in the quadratic specification indicates. Overall, the individual-level and contextual effects of unemployment reinforce each other, while at the same time individuals adapt to rising aggregate-level unemployment. In

contrast, inflation does not have a significant impact which, as suggested above, may reflect the slow pace of price increases over the past decade. Similarly, none of the political interventions—the 2005 general election, the 7/7 terrorist bombings, the installation of Gordon Brown as prime minister—affected life satisfaction. Overall, the effects of the individual-level variables in the multi-level model differ only slightly from the estimates for the single-level model in Table 1. Again, the big story is that affective reactions as well as cognitive evaluations influence life satisfaction, and that personal experiences with policy delivery in the economic and other policy realms matter.

(Table 2 about here)

Conclusion: Government Performance and Life Satisfaction

The present study indicates that several factors related to government performance and the political process have significant effects on citizens' subjective well-being. If people believe that they can influence the political process this increases their life satisfaction. However, micro-level, i.e., personal, policy outcomes relating to the economy, crime and other security related issues are considerably more important than efficacy and are also more important than macro-level, i.e., national policy evaluations. A government seeking to enhance the subjective well-being of its citizens needs to ensure that the delivery of public services on the ground works well.

Viewed generally, the findings highlight the importance of micro-level policy delivery, a topic that has been largely neglected in the growing literature on subjective well-being. Moreover, such are the complexities of policy delivery at the national level that citizens appear to rely on a mixture of cognitive evaluations and affective heuristics. Context matters as well, as indicated by the negative effects of unemployment rates and the Northern Rock bank crisis in the multi-level life satisfaction model. These latter findings

carry a methodological message as well, since they highlight the utility of using large amounts of survey data gathered regularly over closely spaced time intervals. This type of research design is essential to turn a single-country context from a constant into a series of theoretically interesting variables.

The bottom line is that how democratic governments operate and what they do (and fail to do) have a variety of effects on a public's sense of life satisfaction.¹⁴ As observed in the introduction, previous research has found that the structure and extent of citizen opportunities for meaningful political participation are influential. Without gainsaying these effects, we find that egocentric, i.e., personal, experiences resulting from local-level interactions with governmental agencies and programs have much larger impacts. Although impressive, the effects of personal experiences are not the whole story. Rather, to the extent that governments are seen to produce a range of felicitous policy outcomes, more general sociotropic effects are at work as well. Widely publicized economic shocks such as the failure of a major bank also matter. When such an event occurs, the result will be at least a short-run decrease in the public's sense of subjective well-being. Depending upon severity and duration, the evidence indicates that more general economic downturns may have longer lived negative effects.

In sum, to the extent that governments can control the generation and delivery of economic and other policy outcomes, they can affect the subjective well-being of citizens in predictable ways. This idea long has been a basic tenet in the democratic theory literature and, historically, it has been a key aspect of political discourse surrounding the development of the modern welfare state. Empirical analyses presented above indicate that it is correct. In a contemporary mature democracy such as Great Britain, government policy performance is an important element in the story of life satisfaction.

Table 1. Individual-Level Ordered Logit Model of Life Satisfaction,
April 2004-December 2008

<i>Predictor Variables</i>	β	<i>s.e.</i>
Cognitive Policy Evaluations	0.092***	0.009
Affective Policy Evaluations	0.103***	0.009
Cognitive Evaluations of Economy	-0.065	0.006
Affective Reactions to Economy	0.104***	0.006
Personal Economic Evaluations	0.336***	0.006
Personal Policy Experiences	0.199***	0.008
Political Efficacy	0.020***	0.004
Interpersonal Trust	0.169***	0.004
Volunteers in Local Community	0.186***	0.019
Age	-0.048***	0.004
Age Squared	0.001***	0.00004
Disability	-0.612***	0.033
Education	0.029***	0.006
Ethnic Minority	-0.207***	0.031
Gender	-0.098***	0.016
Home Ownership	0.314***	0.019
Income	0.112***	0.005
Occupational Status	0.031***	0.005
Retired	0.231***	0.029
Unemployed	-0.762***	0.046
Marital Status: Living as Married	-0.192***	0.025
Divorced	-0.470***	0.028
Single	-0.515***	0.024
Widowed	-0.298***	0.045

McKelvey $R^2 = .30$

Percentage Correctly Classified (4 categories) = 56.9

Percentage Correctly Classified (2 categories) = 72.9

Log-likelihood = -67862.001

N = 67950

*** - $p < .001$, one-tailed test.

Table 2. Multi-Level Ordered Logit Model of Life Satisfaction,
April 2004-October 2008

<i>Aggregate-Level Model</i>	<u>Y</u>	<u>s.e.</u>
Constant	1.406	1.797
Run on Northern Rock Bank	-0.543***	0.105
Inflation	0.081	0.044
Unemployment	-4.391***	1.236
Unemployment Squared	0.751***	0.212
2005 General Election	-0.072	0.117
7/7 Terrorist Attack	-0.008	0.116
Replacement of Blair by Brown	0.077	0.121
 <i>Individual-Level Model</i>	 <u>π</u>	 <u>s.e.</u>
Cognitive Policy Evaluations	0.078***	0.009
Affective Policy Evaluations	0.091***	0.009
Cognitive Evaluations of Economy	-0.041***	0.007
Affective Reactions to Economy	0.107***	0.006
Personal Economic Evaluations	0.340***	0.006
Personal Policy Experiences	0.193***	0.008
Political Efficacy	0.019***	0.004
Interpersonal Trust	0.168***	0.004
Volunteers in Local Community	0.199***	0.019
Age	-0.049***	0.004
Age Squared	0.001***	0.00004
Disability	-0.609***	0.032
Education	0.029***	0.006
Ethnic Minority	-0.211***	0.031
Gender	-0.097***	0.016
Home Ownership	0.319***	0.019
Income	0.110***	0.005
Occupational Status	0.033***	0.005
Retired	0.228***	0.029
Unemployed	-0.760***	0.046
Marital Status: Living as Married	-0.203***	0.025
Divorced	-0.477***	0.028
Single	-0.528***	0.024
Widowed	-0.308***	0.045

N = 67955

*** - p < .001, one-tailed test.

Figure 1. The Distribution of Life Satisfaction in Britain,
April 2004-December 2008

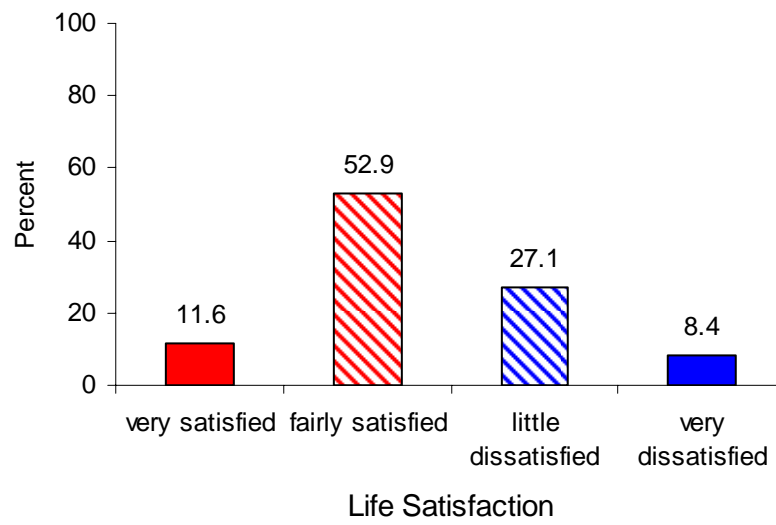


Figure 2. The Dynamics of Life Satisfaction in Britain,
April 2004-December 2008

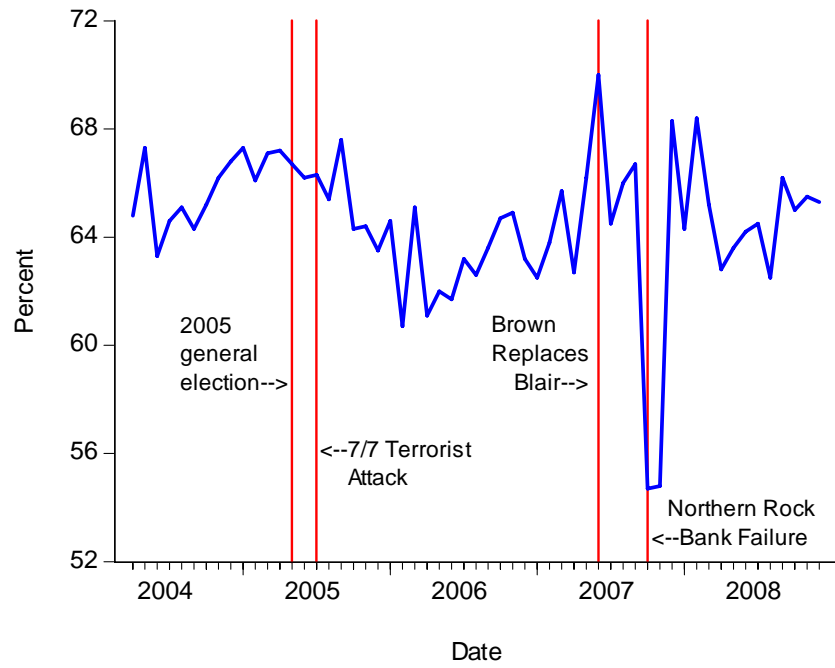
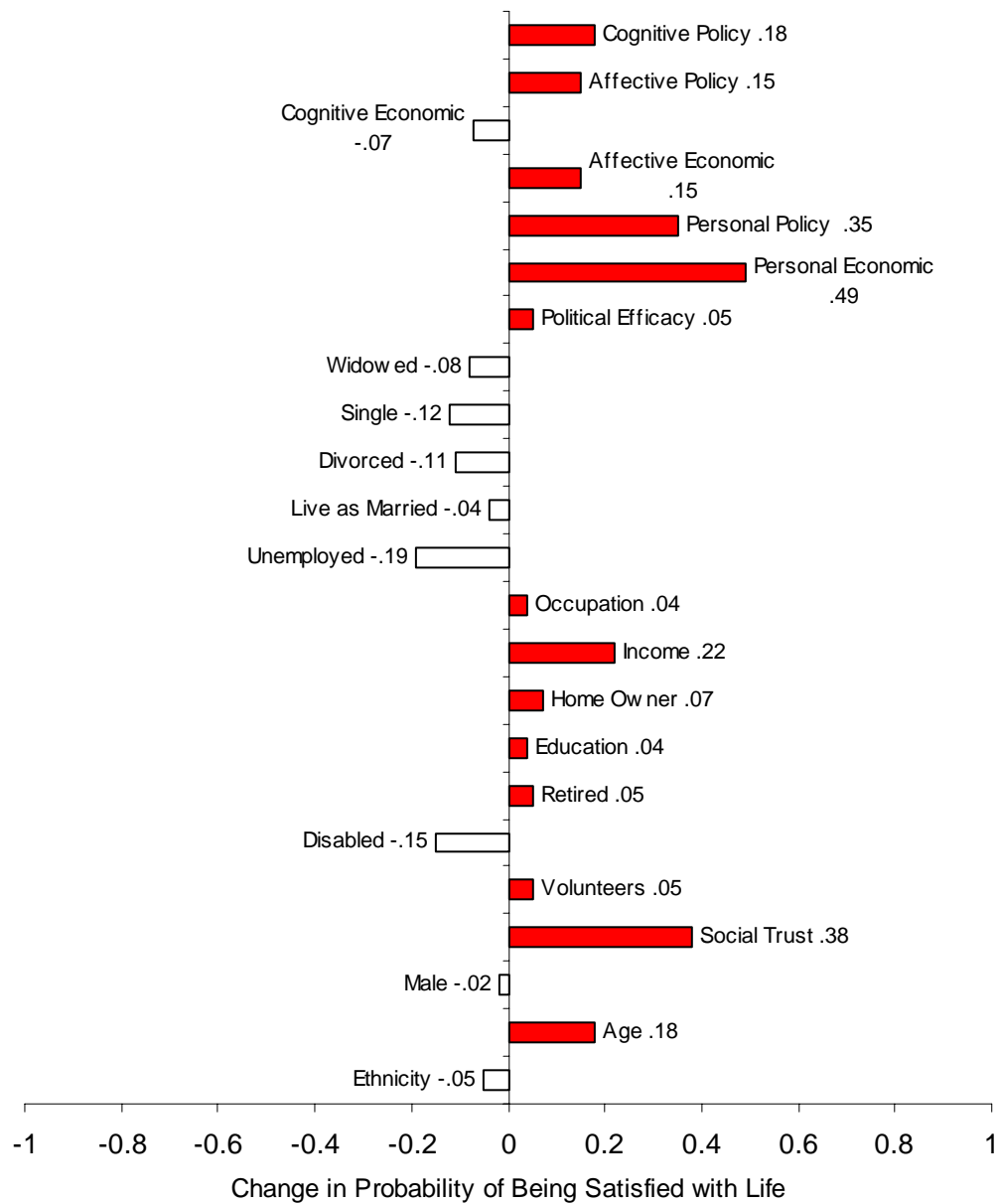


Figure 3. Change in Probability of Being "Fairly" or "Very" Satisfied with Life Associated with Various Predictor Variables



APPENDIX - VARIABLE CONSTRUCTION

Individual-Level Variables

Life Satisfaction

'Thinking about your life as a whole, are you very satisfied, fairly satisfied, a little dissatisfied, very dissatisfied with your life as a whole?'

1 - Very dissatisfied; 2 - A little dissatisfied; 3 - Don't Know; 4 - Fairly satisfied; 5 - Very satisfied

Cognitive Economic Evaluations – The sum of the following two indicators:

'How do you think the general economic situation in this country has changed over the last 12 months? Has it:

1-Got a lot worse; 2-Got a little worse; 3-Stayed the same; 4-Got a little better; 5-Got a lot better

'How do you think the general economic situation in this country will develop over the next 12 months? Will it:

1-Get a lot worse; 2-Get a little worse; 3-Stay the same; 4-Get a little better; 5-Get a lot better

Affective Economic Evaluations – Sum of positive descriptors minus negative descriptors

Which, if any, of the following words describe your feelings about the country's general economic situation? [Please tick up to FOUR]. The descriptors are:

angry, happy, disgusted, hopeful, uneasy, confident, afraid, proud.

Cognitive Policy Evaluations – Principal component scores of evaluations of crime, asylum-seekers, health care and terrorism. For example, the crime variable was measured using:

Do you think that the crime situation in Britain these days is:

1-A lot worse; 2-A little worse; 3-The same; 4-A little better; 5-A lot better

Affective Policy Evaluations – Principal component scores of net evaluations of crime, asylum-seekers (immigration), health care and terrorism. The net evaluation score is the sum of the positive descriptors minus the negative descriptors. For example, the crime variable was measured using:

Which, if any, of the following words describe your feelings about the crime situation in Britain? [Please tick up to FOUR]

angry, happy, disgusted, hopeful, uneasy, confident, afraid, proud.

Personal Economic Experiences – The sum of the following two indicators

How does the financial situation of your household now compare with what it was 12 months ago? Has it:

1-Got a lot worse; 2-Got a little worse; 3-Stayed the same; 4-Got a little better; 5-Got a lot better

How do you think the financial situation of your household will change over the next 12 months? Will it:

1-Get a lot worse; 2-Get a little worse; 3-Stay the same; 4-Get a little better; 5-Get a lot better

Personal Policy Experiences – Principal components analysis of indicators of satisfaction with treatment in relation to crime, asylum seekers, health care and terrorism. For example, the crime indicator was:

During the last 12 months, did you or a family member seek assistance from the authorities over a crime committed in your home, in your neighbourhood, or at work?

1-Yes; 0 - No

(IF YES) Generally speaking, how satisfied were you with this assistance?

1- Very dissatisfied; 2- A little dissatisfied; 3- Don't Know, No experience; 4- Fairly satisfied; 5-Very satisfied

Political Efficacy

On a scale from 0 to 10, how much influence do you have on politics and public affairs? (where 10 means a great deal of influence and 0 means no influence)

Control Variables

Age – Age in Years

Disability Status

Respondents stating that they are disabled are scored 1, and all others are scored 0.

Educational Status-

At what age did you or will you complete your full-time education?

1 - 14 or under; 2 - 15; 3 - 16; 4 - 17 to 18; 5 - 19 to 20; 6 - 21 or over

Employment Status

Unemployed people are scored 1 and all others are scored 0

Ethnicity

Respondents stating that they are 'white British' are scored 1, and all others are scored 0.

Gender

Men are scored 1 and women are scored 0.

Home Ownership

Respondents stating that they own their home (outright or are paying a mortgage) are scored 1, and all others are scored 0.

Interpersonal Trust-

Think for a moment about whether people with whom you have contact can be trusted. Use the 0 to 10 scale where 10 means they definitely can be trusted and 0 means they definitely cannot be trusted.

Marital Status

'Single', 'divorced', 'living as married', 'widowed' are 0-1 dummy variables with 'married' as the reference category.

Occupational Status

Please tell us which one of the following options best describes the sort of work you do. (If you are not working now, please tell us what you did in your last job.)

7 - Professional or higher technical work that requires at least degree-level qualifications (e.g. doctor, accountant, schoolteacher, university lecturer, social worker, systems analyst)

6 - Manager or Senior Administrator (e.g. company director, finance manager, personnel manager, senior sales manager, senior local government officer)

5 - Clerical (e.g. clerk, secretary)

4 - Sales or Services (e.g. commercial traveller, shop assistant, nursery nurse, care assistant, paramedic)

3 - Foreman or Supervisor of Other Workers (e.g., building site foreman, supervisor of cleaning workers)

2 - Skilled Manual Work (e.g. plumber, electrician, fitter, train driver, cook, hairdresser)

1 - Semi-Skilled or Unskilled Manual Work (e.g. machine operator, assembler, postman, waitress, cleaner, labourer, driver, bar-worker, call centre worker)

Retirement Status

Respondents stating that they are retired are scored 1, and all others are scored 0.

Volunteers in Community

Respondents stating that they have done volunteer work in their local community in recent years are scored 1, and all others are scored 0.

Aggregate-Level Variables

Run on Northern Rock Bank – October and November 2007 =1, zero otherwise.

Unemployment – Monthly Claimant Count as a Percentage of the Workforce (Series BCJB, Office of National Statistics)

Inflation – Monthly Change in the All Item Index of Consumer Prices (Series D7BT, Office of National Statistics)

Election Dummy Variable – 1 in May 2005, zero otherwise.

7/7 Terrorist Attack – 1 in July 2005, zero otherwise.

Brown Becomes Prime Minister – 1 in June 2007, zero otherwise

References

Alesina, Alberto and Howard Rosenthal. 1995. *Partisan Politics, Divided Government and the Economy*. Cambridge: Cambridge University Press.

Allwood, Carl M. and Henry Montgomery. 1987. 'Response selection strategies and the realism of confidence judgments'. *Organizational Behavior and Human Decision Processes*. 39: 365-383.

Almond, Gabriel, and Sidney Verba. 1963. *The Civic Culture: Political Attitudes and Democracy in Five Nations*. Princeton: Princeton University Press.

Anderson, Christopher J. 1995. *Blaming the Government: Citizens and the Economy in Five European Democracies*. Armonk, NY: M. E. Sharpe.

Argyle, Michael. 1987. *The Psychology of Happiness*. London: Methuen.

Barnes, Samuel H., Max Kaase et al. 1979. *Political Action: Mass Participation in Five Western Democracies*. Beverly Hills: Sage Publications.

Brennan, Geoffrey and James Buchanan. 1984. 'Voter Choice: Evaluating Political Alternatives'. *American Behavioral Scientist*. 28: 185-201.

Brickman, P. and David T. Campbell. 1971. 'Hedonic Relativism and Planning the Good Society.' In Mortimer H. Appley, ed. *Adaptation-Level Theory: A Symposium*. New York: Academic Press.

Bruni, Luigino and Pier Luigi Porta. 2005. *Economics and Happiness: Framing the Analysis*. Oxford: Oxford University Press.

Bruni, Luigino and Pier Luigi Porta. (eds) 2007. *Handbook on the Economics of Happiness*. London: Edward Elgar.

Byrnes, Steve and Nina Strohming. 2005. *Science B62*. May 5, 2005.

Carter, John R and Stephen D. Guerette. 1992. 'An Experimental Study of Voting' *Public Choice* 73: 251-260.

Clarke, Harold. D., Marianne Stewart, David Sanders and Paul Whiteley. 2004. *Political Choice in Britain*. Oxford: Oxford University Press.

Clarke, Harold. D., Marianne Stewart, David Sanders and Paul Whiteley. 2009. *Performance Politics and the British Voter*. Cambridge: Cambridge University Press.

Coleman, James. 1990. *Foundations of Social Theory*. Cambridge Mass: The Belknap Press of Harvard University Press.

Conover, Pamela and Stanley Feldman. 1986. 'Emotional Reactions to the Economy: I'm Mad as Hell and I'm Not Going to Take It Any More', *American Journal of Political Science* 30: 50-78.

Diener, Ed and Eunkook Suh, eds. 2000. *Culture and Subjective Well-Being*. Cambridge, MA: MIT Press.

Diener, Ed, Richard Lucas, Ulrich Schimmack and John Helliwell. 2009. *Well-Being for Public Policy*. New York: Oxford University Press.

Di Tella, Rafael, Robert MacCulloch and Andrew Oswald. 2003 'The Macroeconomics of Happiness'. *Review of Economics and Statistics* 85, No 4: 809-827.

Duch, Raymond M. and Randolph T. Stevenson. 2008. *The Economic Vote: How Political and Economic Institutions Condition Election Results*. Cambridge: Cambridge University Press.

Easton, David. 1965. *A Systems Analysis of Political Life*. New York: John Wiley & Sons.

Easterlin, Richard, (ed). 2002. *Happiness in Economics*. London: Edward Elgar.

Easterlin, Richard. 2004. 'Explaining Happiness'. *Proceedings of the National Academy of Sciences*. 100: 1176-1183.

Frey, Bruno S. 2008. *Happiness: A Revolution in Economics*. Cambridge Mass: The MIT Press.

Frey, Bruno S. and Alois Stutzer. 2000. 'Happiness, Economy and Institutions'. *Economic Journal* 110, No 446: 918-938.

_____. 2002. *Happiness and Economics*. Princeton: Princeton University Press.

Frey, Bruno S. and Alois Stutzer. 2005. 'Happiness Research: State and Prospects'. *Review of Social Economy* 62: 207-228.

Gigerenzer, Gerd. 2008. *Rationality for Mortals*. Oxford: Oxford University Press.

Gigerenzer, Gerd and Peter M. Todd. 1999. *Simple Heuristics That Make Us Smart*. Oxford: Oxford University Press.

Hansson, Anna. 2009. *Subjective Well-Being an Adult Swedish Population*. Stockholm: Karolinska Institutet.

Helliwell, John. 2006. 'Well-Being, Social Capital and Public Policy: What's New?'. *Economic Journal*. 116, No 510: C34-C45.

- Helliwell, John and Huang Haifang. 2008. 'How's Your Government? International Evidence Linking Good Government and Well-Being'. *British Journal of Political Science*, 38: 595-619.
- Kahneman, Daniel, Ed Diener and Norbert Schwarz, eds. 1999. *Well-Being: The Foundations of Hedonic Psychology*. New York: Russell Sage Foundation.
- Kaufmann, Daniel, Aart Kraay and Massimo Mastruzzi. 2006. 'Governance Matters V: Aggregate and Individual Governance Indicators for 1996-2005'. Washington DC. World Bank.
- Kinder, Donald R. and Roderick D. Kiewiet. 1981 'Sociotropic Politics: The American Case' *British Journal of Political Science*, 11: 129-62.
- Kuklinski, James H. and Paul J. Quirk. 2000. 'Reconsidering the Rational Public' in Arthur Lupia, Mathew McCubbins and Samuel L. Popkin (eds) *Elements of Reason*. Cambridge: Cambridge University Press.
- Lane, Robert E. 2000. *The Loss of Happiness in Market Economies*. New Haven: Yale University Press.
- Lavine, Howard and Thomas Gschwend. 2006. 'Issues, Party and Character: The Moderating Role of Ideological Thinking on Candidate Evaluation' *British Journal of Political Science*. 37: 139-163.
- Layard, Richard. 2005. *Happiness: Lessons from a New Science*. London: Penguin.
- Lewis-Beck, Michael S. 1988. *Economics and Elections: The Major Western Democracies*. Ann Arbor, MI: University of Michigan Press.
- Long, J. Scott. 1997. *Regression Models for Categorical and Limited Variables*. Thousand Oaks, CA: Sage Publications.
- Lupia, Arthur. 1994. 'Shortcuts versus Encyclopedias: Information and Voting Behavior in California Insurance Reform Elections'. *American Political Science Review*. 88: 63-76.
- Marcus, George E., W. Russell Neuman, and Michael McKuen .2000. *Affective Intelligence and Political Judgement*. Chicago: University of Chicago Press, 2000.
- Mueller, Georg P. 2009. 'Trust and Life Satisfaction in Eastern and Western Europe'. In Valerie Moller and Denis Huscicka, eds. *Quality of Life and the Millennium Challenge*. New York: Springer Science.
- Mullis, Randolph J. 1992. 'Measures of economic well-being as predictors of psychological well-being'. *Social Indicators Research*, 26: 119-135.

Mutz, Diana C. 1998. *Impersonal Influence: How Perceptions of Mass Collectives Affect Political Attitudes*. Cambridge: Cambridge University Press.

Nadeau, Richard, Richard G. Niemi, and Antoine Yoshinaka. 2002. 'A Cross-National Analysis of Economic Voting: Taking Account of the Political Context Across Time and Nations'. *Electoral Studies* 21: 403-423.

Near, Janet P. and Paula L. Rechner. 1993. 'Cross-Cultural Variations in Predictors of Life Satisfaction: An Historical View of Differences Among Western European Countries'. *Social Indicators Research*, 29:109-121.

Nettle, Daniel. 2005. *Happiness: The Science behind your smile*. Oxford: Oxford University Press.

Neuman, W. Russell, George E. Marcus, Ann N. Crigler, Michael MacKuen. (eds) 2007. *The Affect Effect: Dynamics of Emotion in Political Thinking and Behavior*. Chicago: University of Chicago Press.

Norpoth, Helmut, Michael Lewis-Beck and Jean-Dominique Lafay (eds) 1991. *Economics and Politics: The Calculus of Support*. Ann Arbor, MI: University of Michigan Press.

Norpoth, Helmut, 1992. *Confidence Regained: Economics, Mrs Thatcher and the British Voter*. Ann Arbor, MI: University of Michigan Press.

Nussbaum, Martha. 2001. *Upheavals of Thought: The Intelligence of Emotions*. Cambridge: Cambridge University Press.

Oswald, Andrew. 1997. 'Happiness and Economic Performance'. *Economic Journal* 107, No 445: 1815-1831.

Pattie, Charles, Patrick Seyd and Paul Whiteley . 2004. *Citizenship in Britain: Values, Participation and Democracy*. Cambridge: Cambridge University Press.

Peterson, Christopher. 1999. 'Personal Control and Well-Being.'. In Daniel Kahneman, Ed Diener and Norbert Schwarz, eds. *Well-Being: The Foundations of Hedonic Psychology*. New York. Russell Sage Foundation, pp. 288-301.

Popkin, Samuel L. 1991. *The Reasoning Voter: Communication and Persuasion in Presidential Campaigns*. Chicago: University of Chicago Press.

Putnam, Robert. 2000. *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon & Schuster.

Raudenbush, Stephen W. and Anthony S. Bryk. 2001. *Hierarchical Linear Models: Applications and Data Analysis Methods*. 2nd edition. Thousand Oaks, CA: Sage Publications.

Raudenbush, Stephen W., Anthony S. Bryk, Uk Fai Cheong and Richard T. Congdon, Jr. 2004. *HLM 6: Hierarchical Linear and Nonlinear Modeling*. Chicago: Scientific Software Inc.

Sanders, David, Harold Clarke, Marianne Stewart and Paul Whiteley 2001. 'The Economy and Voting', in Pippa Norris (ed.), *Britain Votes 2001*. Oxford: Oxford University Press.

Sniderman, Paul M., Richard A. Brody and Phillip E. Tetlock (eds.) 1991. *Reasoning and Choice: Explorations in Political Psychology*. Cambridge: Cambridge University Press.

Snijders, Tom and Roel Bosker. 1999. *Multilevel Analysis: An Introduction to Basic and Advanced Multilevel Modeling*. London: Sage.

Stokes, Donald E. 1963. 'Spatial Models of Party Competition', *American Political Science Review*, 57: 368-77.

Tomz, Michael, Jason Wittenberg and Gary King. 1999. *CLARIFY: Software for Interpreting and Presenting Statistical Results*. Cambridge, MA: Harvard University, Department of Government.

Verba, Sidney, Kay Lehman Schlozman, and Henry E. Brady 1995. *Voice and Equality: Civic Voluntarism in American Politics*. Cambridge: Harvard University Press.

Whiteley, Paul. 1986. *Political Control of the Macroeconomy*. London: Sage

Endnotes

¹ Using the more general literature on the determinants of life satisfaction, Diener et al. (2009) argue public policy can have a wide variety of significant effects on subjective well-being.

² This finding echoes earlier studies arguing that expressive motives are important for explaining voting turnout (e.g., Brennan and Buchanan, 1984; Carter and Guerette, 1992). Such motives prompt people to go to the polls to support a party or candidate regardless of consequences, rather than from a desire to further some goal by influencing an election outcome. Satisfaction derives from the act itself rather than its anticipated consequences.

³ For example, in a national survey conducted in 2000, 55% of Britons agreed or strongly agreed with the statement 'People like me have no say in what government does' and only 22% disagreed or strongly disagreed (Pattie et al. 2004:45).

⁴ See <http://www.essex.ac.uk/bes>

⁵ There were two months with no surveys, May 2005 and September 2006.

⁶ The visual impression of stationarity in Figure 2 is confirmed by a unit-root test (e.g., Enders, 2003). The Dickey-Fuller test statistic is -5.48, which rejects the null hypothesis of non-stationarity at the .01 level.

⁷ From September through to December 2007 the percentage of people who described themselves as being 'afraid' when they thought about the economy was 22.4%, 34.1%, 34.2% and 26.9%.

⁸ The principal components analysis yields one factor with an eigenvalue greater than 1.0 (1.82), which explains 45.7% of the item variance.

⁹ The factor has an eigenvalue of 2.06 and explains 52.5% of the item variance.

¹⁰ The factor has an eigenvalue of 1.29 and explains 32.2% of the item variance.

¹¹ Probabilities are calculated using the CLARIFY program. See Tomz, Wittenberg and King (1999).

¹² Coefficients in the multi-level model are estimated using HLM 6.4 (Rudenshush et al., 2004).

¹³ Frey discusses this process in relation to the utility derived from increased income in the following terms: 'Additional material goods and services initially provide extra pleasure, but it is usually transitory. Higher utility from material goods wears off. Satisfaction depends on change and disappears with current consumption' (Frey, 2008:32). In the language of time series analysis, the hypothesis is that life satisfaction follows a pulse-decay pattern in reaction to increases in personal income. This process is often called the

‘hedonic treadmill’. Recent studies using longitudinal data from the British Household Panel Study and other sources indicate that such treadmill effects are not inevitable. See, e.g., Byrnes and Strohmingner (2005); Diener et al. (2009); Hansson (2009).

¹⁴ Evidence that government performance for life satisfaction matters supports Diener et al.'s recent argument that it would be useful for governments gather data on subjective well-being, just as they regularly gather data on the economy, public health, educational achievement and numerous other topics. As they state: ‘...regardless of the level of government intervention that a society deems to be appropriate, well-being measures can help governments implement policies and actions effectively’. See Diener et al 2009:209.