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Happiness Before and After an Election: An Analysis Based on a Daily Survey around Japan's 2009 Election[§]

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Abstract

This paper investigates whether the Japanese voters became happy and/or unhappy due to the results of the General Election in 2009. We conducted a daily web survey for seven days before and after the election, obtaining 1068 responses. Estimating a fixed effects model, we found that supporters of the Democratic Party of Japan (DPJ), the winner, became significantly happier, and supporters of the Liberal Democratic Party of Japan (LDP) and New Komeito, the losers, became significantly unhappier on the day following the election. However, happiness returned to the previous level in one or two days, implying people adapted to the news very quickly. Dividing those who support the policies of DPJ into two groups, those who expect material benefits from the victory of DPJ and those who do not, we demonstrated that the reason why the supporters of the winner (DPJ) felt happy was not because they obtained material benefits from the change of government. We also found that the happiness level of those whose expectation of the election results were realized did not change, while that of those whose expectation differed from the reality changed substantially. In a word, only unexpected results matter.

Keywords: happiness, election, expectation, survey, Japan

JEL classification: I31, D72

1. Introduction

The goal of this paper is to investigate the mechanisms by which election results affect happiness. This topic has not been examined up until now.

Though the economics of happiness has a long tradition stretching back to Van Praag's Leiden school, it was only after 2000 that many economists began to be attracted by this topic. Since then, research has extended into various fields including the study of political processes.[1] Among these studies, Frey and Stutzer have elucidated how democracy is important to happiness, analyzing the political institutions in Switzerland (Frey and Stutzer 2002a, Frey 2008). Recently, Bok has opened up the study of the politics of happiness（Bok, 2010). This paper can be regarded as part of the field of "politics and happiness," since it analyzes the relationship between elections and happiness.

We investigate whether news of election results affects the happiness of voters. Kimball et al. (2006) examined the effects of hurricane Katrina on the happiness of U.S. residents, and Uchida et al. (2013) and Ishino et al. (2013) investigated the effect of the Great East Japan Earthquake on the happiness of Japanese people. Since elections are macro events, the present study can be regarded as an investigation of the effect of macro news on happiness.

[1] For a survey on the economics of happiness, see Frey and Stucher (2002a, b), Bruni and Porta (2005), Di Tella and MacCulloch (2006) and Clark et al. (2008).

In the past there have been few studies that investigate whether elections affect happiness.[2] The few exceptions we know of are Gilbert et al. (1998), Wilson et al. (2003), Tsutsui et al. (2010), and Kimball et al. (2014). This study tries to add to this sparse literature. In addition, we analyze two problems that the previous studies did not address. The first of these is hedonic adaptation. People have a baseline level of happiness from which their happiness temporarily jumps up (down) when good (bad) news arrives, but their happiness returns to the individual baseline rather quickly (Kimball and Willis, 2006). Personal news has about five times the influence of macro news, and the influence and the impact of personal news is more persistent; in contrast, the impact of macro news lasts only about two days (Kimball et al. 2007). Therefore, although election results might affect voters' happiness just after the election, we would expect happiness to revert to its previous level immediately. Of course, the extent of the influence, the size, and the time that the effects last all depend on the nature of the macro news. For example, Hurricane Katrina lowered Americans' happiness for three weeks (Kimball et al. 2006).

Wilson et al. (2003) investigated the impact of the U.S. presidential election in 2000. They asked 52 college students, who reported themselves to be deeply interested in politics, about their happiness one day after Gore conceded the election. Bush supporters were significantly happier than Gore supporters.

[2] Of course, elections have been studied in numerous papers, such as Vergne (2009), Hindriks and Lockwood (2009), and in Japan Hori (1996) and Taniguchi (2005). However, there has been only a limited number of studies that relate elections and happiness.

On the other hand, Gilbert et al. (1998) analyzed happiness among 57 voters in a 1994 gubernatorial election in Texas one month after the election, and found no evidence that winners became happier than losers.

Using a monthly survey, Tsutsui et al. (2010) examined whether the landslide victory of the Koizumi Cabinet in the general election on September 11, 2005 made Japanese people happy and/or unhappy. The authors found no significant changes in the happiness of supporters and non-supporters of the ruling parties between August and September. However, they found that the happiness of supporters of winners (losers) tends to rise (fall), although the results are statistically insignificant; this suggests that Japanese people's happiness was only slightly affected by the election results.

Kimball et al. (2014) looked at the dynamic response of happiness to outcomes of the 2008 and 2012 U.S. Presidential elections. They developed a model to show how individual's emotions reacted to electoral outcomes, based on the model of Kimball and Willis (2006). They found that the strength of political preferences, as well as prior expectations about the election outcome, determined the size of the change in happiness from before to after the election. They also found that individuals hedonically adapt very quickly.

These studies suggest that adaptation is a critical factor, and that election results generally affect happiness only for a short time following the election. To examine this hypothesis, we

conducted a daily survey that covers the period before and after a voting day. This enables us to elucidate not only whether election results affect happiness just after the election, but also how this effect disappears over time. Specifically, we conducted a daily survey about the election for the House of Representatives conducted on August 30, 2009, obtaining 1068 responses from people of various generations. This election was a historic event in that the Liberal Democratic Party of Japan (LDP) and New Komeito, then in power, lost in a landslide, and the Democratic Party of Japan (DPJ) took power. This was a very rare event in Japan. We analyze whether the supporters for LDP and New Komeito became unhappier, and whether supporters for DPJ became happier, and measure the speed of hedonic adaptation for both.

We also investigate why election results affect happiness. Traditional economics holds that peoples' utility is determined by the material benefits they enjoy. To examine whether this materialism applies to happiness as well, we compare the happiness of two groups – one who expected to receive material benefit from a DPJ victory, and another who did not. Traditional economics would predict that the former group experienced a more positive change in happiness than the latter group.

The rest of this paper is structured as follows. In section 2, the election and our survey are explained. Section 3 reports our main results. In section 4 we check the robustness of our main results. Specifically, we use the data on changes in happiness instead of the level of happiness

and check if the main results are maintained. We also separate the sample into those whose election predictions were correct and incorrect, and check if the results apply only for the latter group. In section 5, we investigate the reason why the election results made people happy and unhappy. Section 6 concludes.

2. The election and our survey

2.1 The election on August 30, 2009

The election in our study is the 45th general election of the Japanese House of Representatives, conducted on August 30, 2009. In this election, the Liberal Democratic Party (LDP) lost power and Democratic Party Japan (DPJ) won a majority and took power. Since the founding of the LDP in 1955, this was the first election in which the LDP did not win a plurality, and only the second instance in which it did not control the legislature.[3] Thus, this election was the most dramatic one in Japan's recent history.[4] Just before the election, Mr. Aso was prime minister and the LDP held 303 seats (out of a total of 480), while its coalition partner New Komeito shared 31. After the election, these parties' seats shrank to 119 and 21, respectively. The DPJ, which held only 112 seats before the election, held 308 afterward.

2.2 Our survey

[3] The Hosokawa cabinet, a non-LDP coalition, briefly took power in 1993.
[4] The LDP won 294 seats in the next general election, in December 2012, returning to power.

We conducted a web-survey from August 27 to September 2, a period that includes the day of the election. The respondents were 1068 (male=486, female=582) eligible voters from all over Japan. While some questions, including “How happy are you?” and “Did you sleep well last night?” were asked every day during the survey period, other questions varied from day to day. Specifically, on August 27, the first day of the survey, we asked about the attributes of respondents such as scholastic performance and income, and on the 28th we asked about their party sympathies, election predictions, and desired outcome. On August 31, the day after the election, we asked whether respondents voted or not, which party they voted for, and whether the results were in line with their expectations.

Table 1 shows the number of supporters of each party. 24% supported the DPJ, while 13% supported the LDP.

3. How did the happiness of respondents change according to their political allegiance?

The main aim of this paper is to determine whether supporters of the deposed parties, LDP and New Komeito, became unhappier just after learning the results of the election, and/or whether supporters of DPJ (which won a landslide victory) became happier. We also investigate the progress of hedonic adaptation, i.e. how fast happiness returned to its previous level. In doing so, we need to be careful of two potential confounds. One is that when the polls closed at 20:00,

television stations began to announce their prediction of the seats based on their own exit polling, so that respondents who answered after 20:00 may have known part of the election results. Thus, responses on 30th include some who knew the election results. However, this number was probably minor, and confirmation of the results happened only on the 31st.[5] Given these facts, we conclude that it is appropriate to compare the happiness on the 31st with that on the 29th in order to measure the effect of the election.

The second potential issue is that happiness level varies every day due to events other than the election. Thus, it is not appropriate to directly compare the average happiness levels of supporters of a party on different days. Rather, we need to normalize the happiness of supporters of a party on a day by subtracting the average happiness of all the respondents on that day.[6]

Figure 1 shows the normalized happiness of supporters of the DPJ, LDP, and New Komeito during the observation period. The happiness of DPJ supporters rose on the 31st and returned to its original level on September 1st. The happiness of LDP supporters dipped on the 31st, but substantially recovered on September 1st. The happiness of New Komeito supporters fell substantially on the 30th and dipped further on the 31st; although it recovered on September 1st, it

[5] We retrieved the time of responses only on the last day (September 2), and 20% of the respondents answered after 20:00 on that day (and 13% after 21:00).

[6] We also constructed a normalized indicator of happiness by dividing by the average of all the respondents on that day rather than subtracting. The results are quite similar to those reported in this paper.

did not return to its original level by the end of the sample period.[7] These findings are consistent with the hypothesis that supporters of the winning party become happier and those of the losing party become less happy as a result of the election.

Figure 1 also shows that hedonic adaptation happened quickly. The happiness of DPJ and LDP supporters returned to their original levels very quickly. Even the happiness of New Komeito supporters, which fell more than that of LDP supporters, recovered substantially on September 1st, though not totally.

Regression analysis allows us to verify the significance of these results. We take the 29th as the benchmark, since some respondents might have known the results after 8:00 P.M. on the 30th. Explanatory variables are day-dummies from August 27th to September 2nd (August 29th is excluded as the benchmark) and interaction terms of these day-dummies with party support dummies. Thus, the regression equation for DPJ supporters is:

$$\begin{aligned} HAPPINESS_{i,t} = {} & c_0 + c_i + a_{27}DAY27_t + a_{28}DAY28_t + a_{30}DAY30_t + a_{31}DAY31_t \\ & + a_{01}DAY01_t + a_{02}DAY02_t + b_{27}DPJ_i \cdot DAY27_t \\ & + b_{28}DPJ_i \cdot DAY28_t + b_{30}DPJ_i \cdot DAY30_t + b_{31}DPJ_i \cdot DAY31_t \\ & + b_{01}DPJ_i \cdot DAY01_t + b_{02}DPJ_i \cdot DAY02_t + \epsilon_{i,t}\,, \end{aligned} \quad (1)$$

where *DAY*27 is a day-dummy for August 27th, and so on. *DPJ* is a dummy variable indicating

[7] This result may reflect the fact that New Komeito is smaller than the LDP and the DPJ, and has many dedicated supporters. See also footnote 17.

support for the DPJ. For the regression measuring the happiness of LDP supporters, the *DPJ* dummy is replaced with an *LDP* dummy in eq. (1). In order to control for personal characteristics that are constant over the observation period, we estimate the equation with a fixed effects model. DPJ_i does not appear alone in equation (1) because it is an individual-specific term. We call this specification Model 1.

We also estimate a Model 2, in which variables that change every day are added as controls. These include:

SLEEP: Did you sleep well last night?

1. poor sleep, 2. slightly poor sleep, 3. slept well, 4. slept very well

SLEEP is defined as the answer, which represents the quality of sleep.

HEALTH: How is your health now?

1. good, 2. generally good, 3. generally not good, 4. bad

HEALTH is defined as five minus the answer to this question, so that a larger number indicates better health.

WORK: Have you already worked (or attended a class) today or are you going to attend a class today?

1. I have worked, 2. I will be working, 3. I am working now, 4. No work today

Dummy variables *WORK_DONE*, *WORK_AFTER*, and *WORK_NOW* take unity if the answer is

1, 2, and 3, respectively and zero otherwise.

NEWS: Recall the most important personal news or event that occurred since you answered this questionnaire yesterday. How did you evaluate the news?

Choose a number between -5 and 5. 5 is “very good,” -5 is “very bad.”

NEWS is defined as the answer to this question.[8]

Table 2 presents descriptive statistics for these variables. For *SLEEP* and *HEALTH*, the average of each variable exceeds 2.5. The average of “personal news” is positive, implying that good personal news is more frequent than bad.

In Table 3, the estimates for the regression with the DPJ dummy are presented. In Model 1 the coefficient on the interaction term between *DPJ* and *DAY31* is positive and significant at the 1% level, implying that DPJ supporters became significantly happier than they were before the election. In Model 2, the coefficient becomes smaller, but is still significant at the 10% level. Among the control variables, the coefficients on *HEALTH* and *NEWS* are positive and significant, taking large values.

In Table 4 the results for LDP supporters are shown. In Model 1, the interaction term between *LDP* and *DAY31* is significantly negative at the 5% level, and in Model 2 significant at the 10% level. The interaction term between *LDP* and *DAY27* is also significantly negative.

[8] We asked a similar question about macro news, i.e. news conveyed by media like TV and newspapers. Thus, the news about the election is not included in this personal news.

In Table 5, in addition to DPJ and LDP, we present the coefficient on the interaction terms between *DAY30* and *DAY31* and New Komeito, old (before the election) ruling party supporters, new (after the election) ruling party supporters, pro-Aso-cabinet, and anti-Aso-cabinet. Supporters of New Komeito became unhappier not only on 31st but also on 30th already. Yet, the coefficient of the interaction term between New Komeito and *DAY31* is larger. Supporters of the old ruling party show the same tendency. Supporters of the new ruling party became happier only on the 31st in Model 1. Pro-Aso-cabinet respondents were unhappier both on the 30th and 31st. On the other hand, anti-Aso-cabinet respondents were happier on both days. All of these results are generally consistent with our hypothesis.

4. Robustness check

We check the robustness of the results presented in the previous section using the data on changes in happiness and on expectations.

4.1 Changes in happiness

In the survey, we asked every day not only about happiness levels, but also about changes in happiness:

Your happiness today compared with your happiness yesterday (before) is

1. very happy, 2. fairly happy, 3. slightly happy, 4. same as yesterday (before), 5. slightly

unhappy, 6. fairly unhappy, 7. very unhappy

We define *CHANGE* as eight minus this answer. The average change in happiness exceeds 4 (average of 1 to 7), implying that level of happiness defined as the sum of these changes in happiness is increasing (see Table 2).[9]

Although one might think that changes in happiness should be the same as the first difference of the reported level of happiness, the changes people reported were very different from the first difference of the levels they reported. While the average of the latter is around zero, the average of the former exceeds 4 (average of 1 to 7), so that if we were to calculate the happiness level as the sum of the reported happiness changes, we would find that happiness grows more or less continuously.[10]

Because the variable *CHANGE* also varies every day due to various reasons, we normalize it by subtracting each day's average. In Figure 2, we present *CHANGE* for DPJ, LDP, and New Komeito supporters. While LDP and New Komeito supporters reported negative happiness changes on the 31st, DPJ supporters reported positive changes. In addition, on September 1st, happiness rose for LDP and New Komeito supporters and declined for DPJ supporters, which may have been reactions to the large drop on the previous day.

[9] Tsutsui and Ohtake (2012) report that the same tendency is evident in their daily happiness survey over 300 days!

[10] Tsutsui and Ohtake (2012) confirm this using 300 daily data and show that the reason why these two series differ is that adaptation is perfect in the latter case, while only 1/3 of the happiness is adapted in the former.

When we regress happiness changes on the day dummies and the interaction terms between day dummies and the DPJ dummy, the coefficient of the interaction term is significant only on the 31st at the 1% level (results not shown). This result does not change when we add the control variables (Model 2). As for the LDP supporters, happiness declined on the 31st (significant at the 5% level) and on the 27th (significant at the 10% level).[11]

4.2 Only unexpected results affected happiness

One suspects that a fully anticipated election result would not truly be news, and hence would not have an effect on happiness. Only an *unexpected* result should have an impact. In this subsection, we examine that hypothesis.

On the day following the election (the 31st), we asked respondents: "Were the election results what you expected?", and requested them to choose from "as expected," "a little bit different from expectation," "substantially different from expectation," and "completely different from expectation." We then divided the sample into those who answered "as expected" and those who answered otherwise. In Figure 3, we present the normalized happiness for the two groups of DPJ supporters. The "as expected" group numbered 185 and all others numbered 67, indicating that many people expected the correct result. Comparing happiness levels on the

[11] They lose the significance when we add the control variables; it did not significantly decline on any day at the 10% level.

29th and 31st, while happiness is almost flat for those who answered "as expected," it greatly increased on the 31st for those who chose the other options.

In Figure 4, the results of the same analysis for LDP supporters are presented. Here, the number of people who chose "as expected" is 71 and the other options 68. Comparing happiness on the 29th and 31st, while happiness of the "as expected" group did not change, the happiness of the others dropped substantially on 31st.

Thus, these results reveal that both DPJ and LDP supporters experienced increased happiness only when they faced unexpected results. This offers one more example of the general proposition in Economics that only unexpected things matter.

5. Why did happiness change due to the results of the election?

Why did people feel happiness and unhappiness from the result of the election? Traditional economists, who assume that individuals are selfish, might argue that people become happy only when they gain material benefit. In this section, we examine this hypothesis.

In our survey on August 28th, we showed respondents seven policies that were the main issues at the election and asked respondents which party's policy is preferable to them.[12] Among the policies, "child allowance policy" and "expressway toll policy" can be used to

[12] The seven policies are child allowance, expressway toll, transfer of administrative powers to local government, reconstruction of public finance, reform of bureaucratism, pension reform, and farm subsidies.

clarify whether people vote for a party in order to receive material benefit. For the former policy, 33% of the respondents preferred the DPJ's policy position, and 17% preferred the LDP's; for the latter issue, these figures were 26% and 23%. Over 40% answered "I cannot say which is preferable" for both questions.[13] The DPJ in general proposed more generous policies than the LDP; for the child allowance, the DPJ promised a larger allowance, and for the expressway toll, the elimination of tolls.[14] Therefore, if DPJ took power, those households with children under 15 and those who own cars would be better off. If the reason people support the DPJ is to get material benefits from its control of government, households with children under 15 years old and households with cars would see their happiness rise more than that of other households from a DPJ victory. Fortunately, our survey includes data on whether households have children under 15 years old, and how many cars they own. Thus, we can divide households into those who stood to receive material benefits from the victory of DPJ and those who did not.

We divide DPJ supporters according to whether they have cars or not, and calculate the normalized happiness on each day. Results for car ownership are shown in Figure 5. There is no evidence that car owners became happier on the 31st than non-car owners (comparisons between two groups of the changes from 29th to 31st; t=-0.212).[15]

Similarly we divide the sample according to whether respondents have children under 15.

[13] Furthermore, 10% answered "I don't know the policies of either party."
[14] The LDP criticized the DPJ's policies, pointing out that they would require increased deficits.
[15] The negative sign means that non-car owners became happier.

Results for households with children are presented in Figure 6. Although it looks like childless households became happier than other households, the difference between the groups of the changes from 29th to 31st is not significant (t=-0.644). These results suggest that DPJ supporters became happier for reasons other than the monetary benefits they stood to gain from the realization of the DPJ's policies. These results indicate that people do not necessarily select their supporting party due to the material benefits they obtain.[16]

The results of no difference between the groups might have been obtained because the election results were expected beforehand. To check this possibility, we repeated our analysis restricting the sample to those who answered that the election results were unexpected. Although households with cars became happier and those without cars became unhappier, the difference between the two groups was not significant (t= 0.459). As for child allowances, although the happiness of households with children didn't change, and the happiness of those without children increased, the difference is not significant (t= -0.827). Therefore, our results are robust even if we restrict the sample to those who did not expect the election results.

6. Conclusions

This paper examined whether Japanese voters became happy and/or unhappy due to the results

[16] They probably choose a party whose world view and opinion about society are consistent with their own. Preference for the individual candidates of a particular party may also be an important factor.

of an election that produced a historic government changeover. The former general election had also been a very heated one. Tsutsui et al. (2010) analyzed that election and found that while the supporters of the winning party became happy and those of the losers unhappy, these changes were not significant. Although the authors interpreted the result to indicate that Japanese people are apathetic about elections, they faced the problem that their monthly survey started four days after the election. Thus, their results do not rule out the possibility that Japanese became very happy and unhappy just after the election.

To examine this possibility, we need to investigate how quickly the happiness and unhappiness changes brought about by the election results dissipated, so that we conducted a daily survey covering the voting day. Using these survey data we found that DPJ supporters, the winner, became significantly happier only on 31st, and the LDP and New Komeito supporters, the loser, became significantly unhappier on 31st.[17] Japanese people become happy and unhappy just after the election according to their party preferences, but they returned to their previous level of happiness quickly. Rapid adaptation is the reason Tsutsui et al. (2010) did not find significant results.

In addition, in our survey, we asked respondents whether their happiness went up or down

[17] Supporters of New Komeito became unhappier on 30th (election day). It is widely known that supporters of New Komeito, which is backed by a large religious body named Soka-Gakkai, tend to be passionate. Therefore, we surmise that many of them watched the election results at the beginning of on the vote-counting on the 30th.

from the preceding day. Using these data, we confirmed that data on changes in happiness produce similar results to the data on happiness levels.

To measure the impact of surprises, we asked respondents whether the election results were expected. We found that the happiness level of those whose expectation was confirmed did not change, while the happiness of those who were surprised by the results tended to change substantially.

Finally, we investigated whether expected material benefit from policy changes accounted for the happiness changes. However, our empirical analysis did not find evidences for this hypothesis, suggesting that party support is not determined primarily by material benefits. It might be the case that sympathy with the policies and the candidates of a party are the most important factors in determining party affiliation.

A problem with our study is that we could not separate the responses on 30th into those before or after the election, since we did not obtain the exact time of response. Since the news of the election results started at 20:00 on TV, the responses on the 30th include both some who knew about the election results and some who didn't. Thus, we make do with comparing happiness on the 31st with that on the 29th.

Although our survey is not perfect, collecting daily data before and after voting day is innovative, and contributes to the elucidation of whether happiness varies due to election results

in Japan.

Reference

Bok, D., 2010. *The politics of happiness: What government learn from the new research on well-being.* Princeton, NJ, Princeton University Press.

Bruni, L., Porta, P. L., 2005. *Economics and happiness: Framing the analysis*. New York ,Oxford University Press,.

Clark, A. E., Frijters, P., Shields, M. A., 2008. Relative income, happiness, and utility: An explanation for the Easterlin paradox and other puzzles. *Journal of Economic Literature,* 46, 95–144.

Di Tella, R., MacCulloch, R., 2006. Some uses of happiness data in economics. *Journal of Economic Perspectives* 20, 25–46.

Frey, B. S., 2008. *Happiness: A revolution in economics*. Cambridge MA, MIT Press.

Frey, B. S., Stutzer, A., 2002a. *Happiness and economics*. Princeton, NJ, Princeton University Press.

Frey, B. S., Stutzer, A., 2002b. What can economists learn from happiness research? *Journal of Economic Literature* 40, 402-435.

Gilbert, D. T., Pinel, E. C., Wilson, T. D., Blumberg, S. J., 1998. Immune neglect: A source of durability bias in affective forecasting. *Journal of Personality and Social Psychology* 75, 617-638.

Hindriks, J., Lockwood, B., 2009. Decentralization and electoral accountability: Incentives, separation and voter welfare. *European Journal of Political Economy* 25, 385-397.

Hori, K., 1996. *Empirical analysis of the Japanese politics*. Kanagawa Japan, Tokai University Press. (in Japanese)

Ishino, T., Ogaki, M., Kamesaka, A., Mura, T., 2013. Effect of east Japan great earthquake on life satisfaction and happiness, Joint Research Center for Panel Studies Discussion Paper Series DP 2012-005. (in Japanese)

Kimball, M., Levy, H., Ohtake, F., Tsutsui, Y., 2006. Unhappiness after Hurricane Katrina. NBER working Paper No. 12062.

Kimball, M., Willis, R., 2006. Utility and happiness. mimeo.

Kimball, M., Ohtake, F., Tsutsui, Y., 2007. The Dynamics of happiness: Evidence from daily panel data. Paper presented at MESS Workshop, Netherlands.

Kimball, M., Raymond, C., Ohtake, F., Tsutsui, Y., 2014. The Response of Happiness to election outcomes: Testing dynamic theories of expectations-dependent Happiness. mimeo.

Taniguchi, N., 2005. *Electoral behavior in contemporary Japan*. Tokyo Japan,Keio Gijuku University Press, (in Japanese).

Tsutsui, Y., Kimball, M., Ohtake, F., 2010. Koizumi carried the day: Did the Japanese election results make people happy and unhappy? *European Journal of Political Economy* 26, 12-24.

Tsutsui, Y., Ohtake, F., 2012. Asking about changes in happiness in a daily web survey and its implication for the Easterlin Paradox. *Japanese Economic Review* 63, 38-56.

Uchida, Y., Takahashi, Y., Kawahara, K., 2013. Changes in hedonic and eudaimonic well-being after a severe nationwide disaster: The Case of the Great East Japan Earthquake. *Journal of Happiness Studies* 15, 207-221.

Vergne, C., 2009. Democracy, elections and allocation of public expenditures in developing countries. *European Journal of Political Economy* 25, 63-77.

Wilson, T. D., Meyers, J., D., Gilbert, T., 2003. How happy was I, anyway?: A retrospective impact bias. *Social Cognition* 21, 421-446.

Table 1. Number of supporters of each party (Results of our survey)

	TOTAL	DPJ	LDP	New Komeito	Small Parties	NP	DK	DWA
Count	1068	252	139	32	103	443	67	32
Proportion (%)	100	23.6	13.0	3.0	9.6	41.5	6.3	3.0

Note: Small Parties include Japanese Communist Party, Social Democratic Party, Your Party, New Party Nippon, People's New Party, the Happiness Realization Party, Japan Renaissance Party, and New Party Daichi. NP, DK, and DWA stand for "Non-Affiliated," "I Don't Know," and "I Don't Want to Answer," respectively.

Table 2. Descriptive statistics of the variables used in this paper

	Number of observations	Mean	Standard deviation	Minimum	Maximum
HAPPINESS	7476	6.144	2.218	0	10
CHANGE IN HAPPINESS	7476	4.264	1.053	1	7
SLEEP	7476	2.628	0.905	1	4
HEALTH	7476	2.877	0.722	1	4
WORK_DONE	7476	0.242	0.428	0	1
WORK_AFTER	7476	0.128	0.334	0	1
WORK_NOW	7476	0.125	0.331	0	1
NEWS	7476	0.870	2.511	-5	5

Table 3. Estimation results of eq. (1) for DPJ supporters

	Model 1		Model 2	
	Coefficients	P-Value	Coefficients	P-Value
CONSTANT	6.290	0.000	5.100	0.000
DPJ×DAY27	0.109	0.343	0.097	0.359
DPJ×DAY28	-0.068	0.556	-0.063	0.552
DPJ×DAY30	-0.016	0.888	-0.105	0.321
DPJ×DAY31	0.313	0.006	0.178	0.092
DPJ×DAY01	0.020	0.860	-0.004	0.972
DPJ×DAY02	0.023	0.840	-0.016	0.880
DAY27	0.054	0.333	0.111	0.034
DAY28	-0.119	0.033	-0.062	0.234
DAY30	-0.087	0.119	-0.076	0.139
DAY31	-0.408	0.000	-0.326	0.000
DAY01	-0.294	0.000	-0.234	0.000
DAY02	-0.257	0.000	-0.216	0.000
SLEEP			0.014	0.486
HEALTH			0.332	0.000
WORK_ DONE			0.067	0.141
WORK_AFTER			-0.088	0.115
WORK_NOW			-0.111	0.062
NEWS			0.199	0.000
Number of observations	7476		7476	
R squared	0.021		0.174	

Table 4. Estimation results of eq. (1) for LDP supporters

	Model 1		Model 2	
	Coefficients	P-Value	Coefficients	P-Value
CONSTANT	6.290	0.000	5.102	0.000
LDP×DAY27	-0.298	0.040	-0.240	0.072
LDP×DAY28	-0.077	0.597	0.040	0.762
LDP×DAY30	-0.169	0.245	-0.084	0.529
LDP×DAY31	-0.368	0.011	-0.241	0.070
LDP×DAY01	-0.114	0.431	-0.070	0.602
LDP×DAY02	-0.198	0.171	-0.141	0.291
DAY27	0.118	0.023	0.165	0.001
DAY28	-0.125	0.017	-0.083	0.094
DAY30	-0.069	0.187	-0.090	0.063
DAY31	-0.286	0.000	-0.253	0.000
DAY01	-0.274	0.000	-0.226	0.000
DAY02	-0.226	0.000	-0.202	0.000
SLEEP			0.014	0.509
HEALTH			0.332	0.000
WORK_DONE			0.068	0.135
WORK_AFTER			-0.088	0.115
WORK_NOW			-0.109	0.068
NEWS			0.199	0.000
Number of observations	7476		7476	
R squared	0.020		0.174	

Table 5. Change in happiness of various groups between 29th and 31st and between 29th and 30th

		Model 1		Model 2	
		Coefficient	P-Value	Coefficient	P-Value
LDP	From 29 to 30	-0.169	0.245	-0.084	0.529
	From 29 to 31	-0.368	0.011	-0.241	0.070
DPJ	From 29 to 30	-0.016	0.888	-0.105	0.321
	From 29 to 31	0.313	0.006	0.178	0.092
NEW KOMEITO	From 29 to 30	-0.647	0.023	-0.610	0.020
	From 29 to 31	-0.976	0.001	-0.960	0.000
OLD RULING PARTY	From 29 to 30	-0.282	0.034	-0.203	0.097
	From 29 to 31	-0.521	0.000	-0.411	0.001
NEW RULING PARTY	From 29 to 30	-0.043	0.699	-0.112	0.267
	From 29 to 31	0.247	0.024	0.143	0.157
PRO-CABINET	From 29 to 30	-0.350	0.027	-0.276	0.057
	From 29 to 31	-0.470	0.003	-0.327	0.024
ANTI-CABINET	From 29 to 30	0.239	0.018	0.187	0.044
	From 29 to 31	0.347	0.001	0.257	0.005

Note: Coefficient and P-Value are those on the day dummies representing the 30th and 31st, respectively.

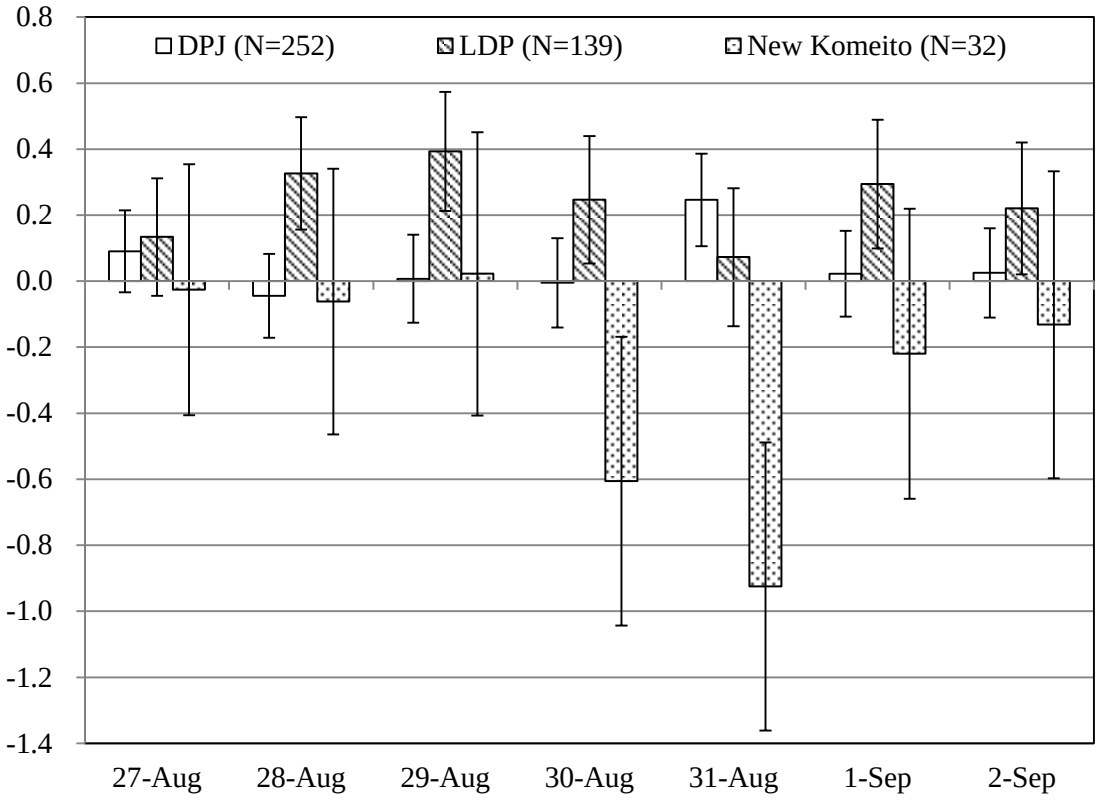

Figure 1. Normalized happiness of DPJ, LDP, and KOM supporters.

Note: Normalized happiness is computed as a respondent's happiness divided by the average happiness of the whole sample. Capped spikes represent standard errors.

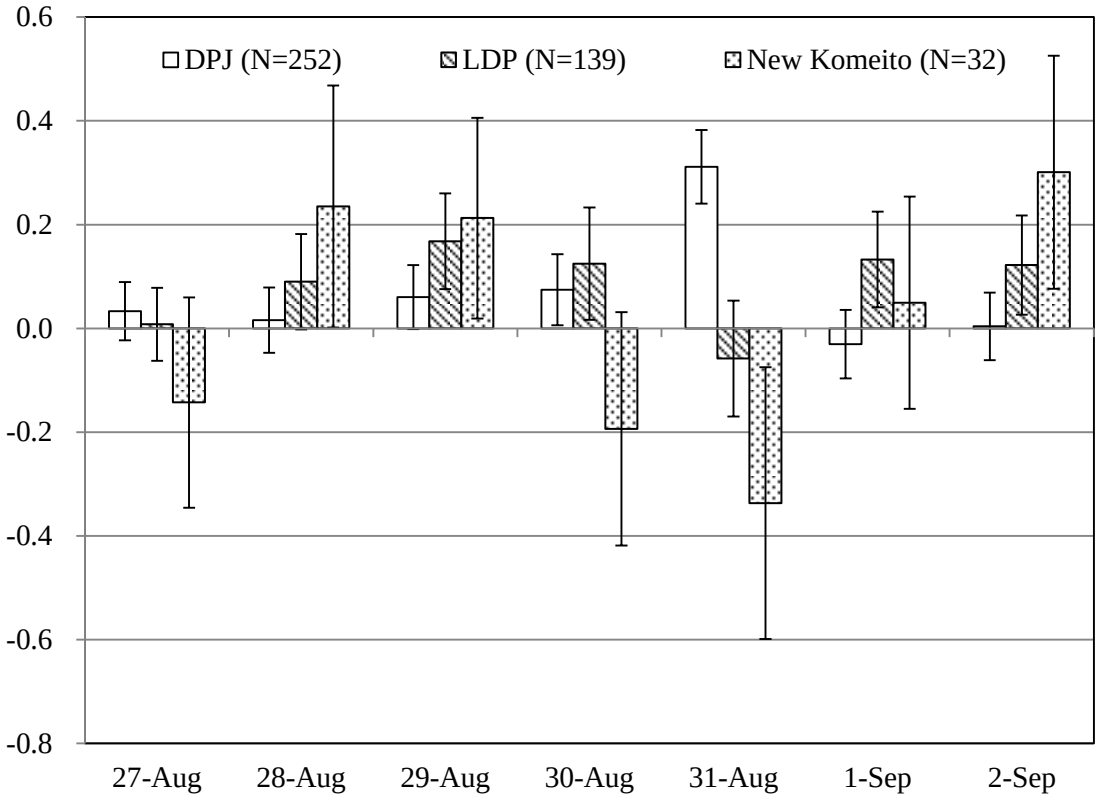

Figure 2. Average normalized change in happiness of DPJ, LDP, and New Komeito supporters

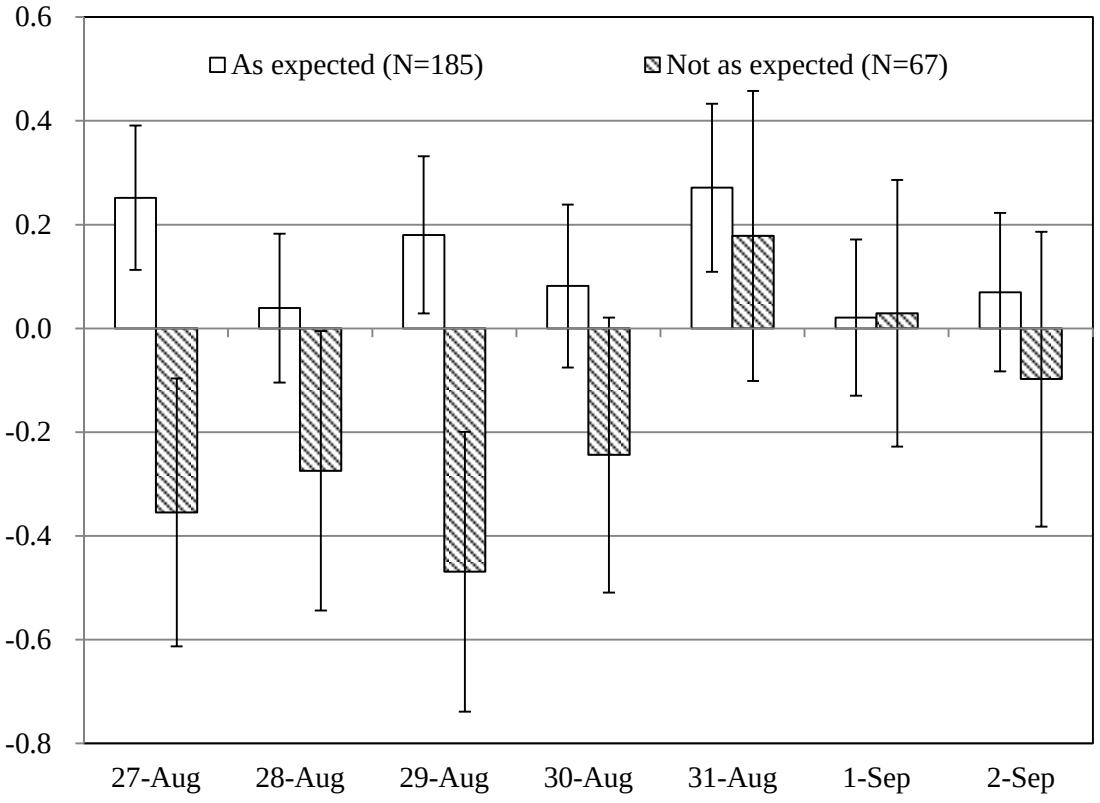

Figure 3. Normalized happiness for DPJ supporters and whether the result was as expected or not

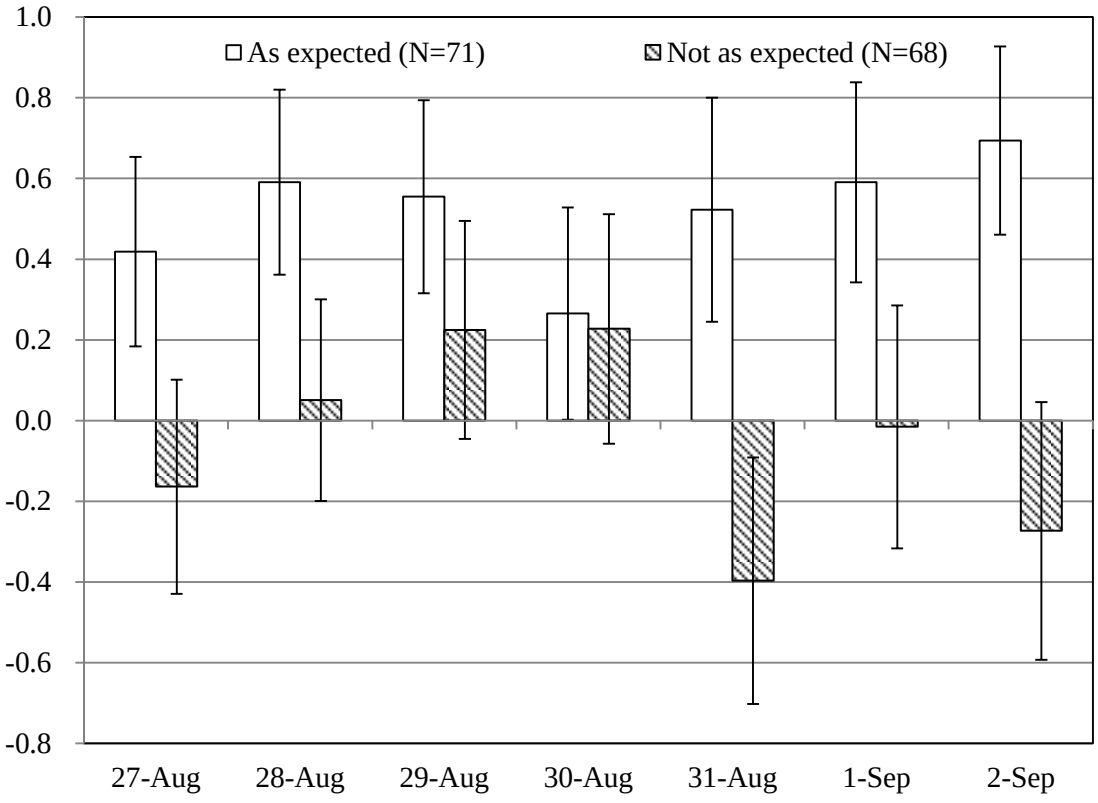

Figure 4. Normalized happiness for LDP supporters and whether the result was as expected or not

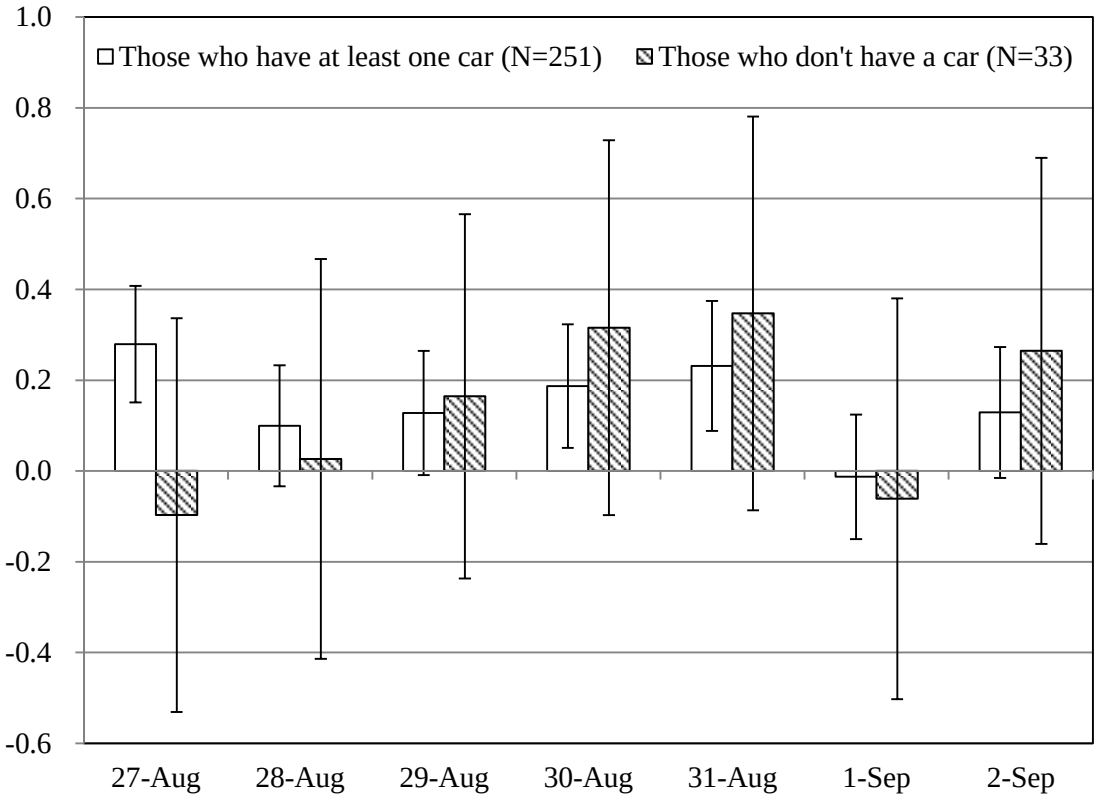

Figure 5. Normalized happiness of those who have at least one car and those who don’t have a car

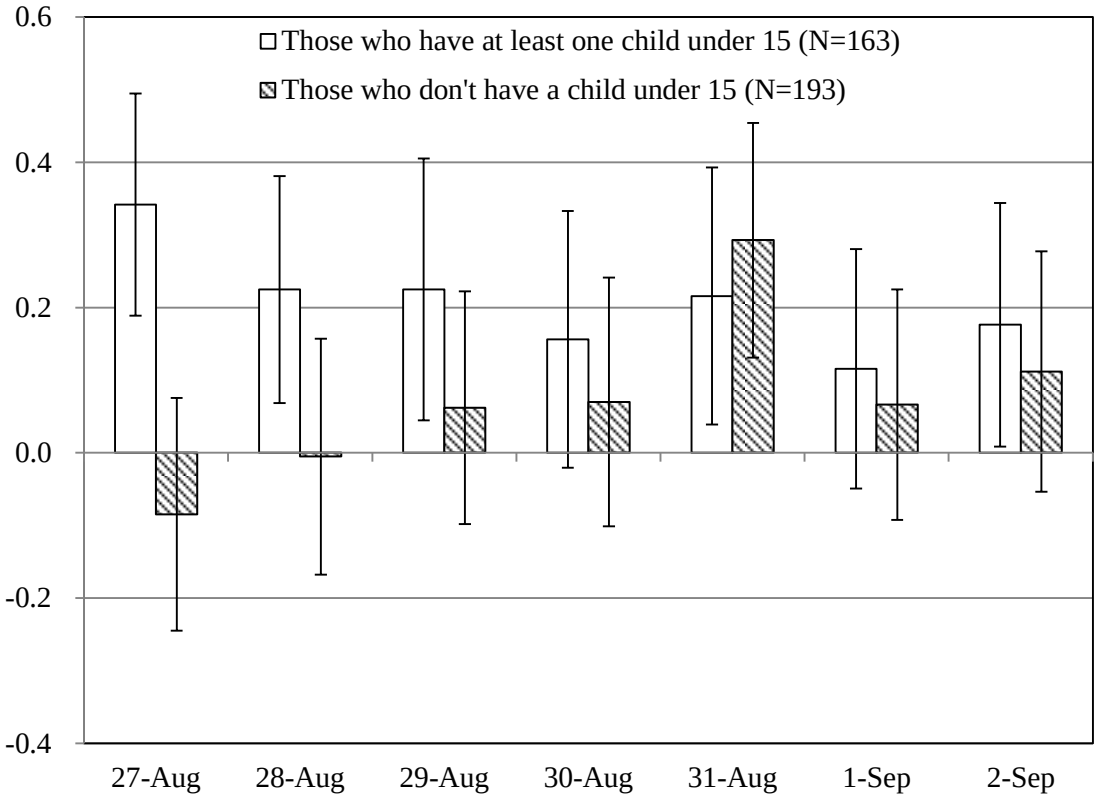

Figure 6. Normalized happiness of those who have at least one child under 15 and those who don’t have a child under 15