Educational Studies in Japan: International Yearbook
No. 9, March, 2015. pp. 55–68

Attitudes toward Education Expenditures in Japan: Comparisons with Social Security and Welfare Services Expenditures

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This paper examines people's attitudes toward public spending on education in Japan. It is well known that Japan has the smallest public education expenditure relative to GDP among the OECD countries, and this may yield unequal opportunities in education. The tax burden in Japan is small compared to those in OECD countries, and there may be no room to distribute public spending on education without a tax increase. The following three issues should be considered concurrently: people's attitudes toward public expenditure on education, people's attitudes toward the balance between tax burden and public services, and people's trust in the government. In order to find simple patterns in these attitudinal responses, latent-class analysis was employed using data captured through the Japanese General Social Surveys conducted in 2010. As a result, four latent classes were found. The largest class accounted for over 40% of the sample, and members of this group think that the government should increase public expenditure on education and social security, even if tax increases are required. The same group, however, distrusted the government. Trust in small-government policy seemed to be weak among the Japanese people, because in all the latent classes, the majority of people wanted the government to improve public services, even if this would require tax increases. However, those who preferred no improvement in public services and did not trust the government were more likely to have a lower-level socioeconomic background, even though they would be the beneficiaries of those services. People who did not have children were less likely to agree with increasing public expenditure on education, because among the Japanese people, child-birth and child-rearing might be considered individual rather than social issues.

Keywords: public expenditure on education; latent-class analysis; trust in government; Japanese General Social Surveys

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1. Introduction

A more globalized economy promotes deregulation and competition among enterprises, and in Japan, the number of nonstandard workers whose positions are unstable is increasing. Because such situations lead to the polarization of working conditions, differences among the living standards of workers also inevitably expand (Kalleberg, 2011). During the period of rapid economic growth after World War II, many Japanese people believed that social problems such as poverty, income inequality, and inequality of education were almost resolved. However, in the late 1990s, some sociologists and economists pointed out the extent of economic disparity (Sato, 2000; Tachibanaki, 1998). Recently, the poverty rate in Japan has increased, reaching 16.3% in 2012 the worst rate on record[1)].

Among researchers in the field of social stratification and mobility, it has been a common view that regardless of education expansion, inequality of education opportunity persists (Shavit and Blossfeld, 1993). On the other hand, however, this gap can be seen as shrinking in the long term (Breen et al. 2010; Kondo and Furuta, 2009; Breen et al., 2009). This implies that education attainment has a more influential effect on a person's life course in a meritocratic modern society (Hout 2012; Breen, 2010; Breen and Jonsson, 2007)[2)].

However, given the growing economic disparity in Japan, it is doubtful whether education really helps achieve a meritocratic society. According to Organization for Economic Co-operation and Development (OECD) statistics, Japan has the smallest proportion of public education expenditure relative to GDP among OECD members, and pre-primary and tertiary education there largely depends on private investment (OECD, 2012: 246). Despite expensive tuition fees for higher education, financial support for students is fragile. There are few scholarships or other grants made to households, and students who need financial aid have no choice but to seek student loans (OECD, 2012: 279–80). It is urgent that Japan takes preventive measures against becoming an unfair society in which students who cannot pay expensive tuition have no opportunity to progress to higher-level education institutions.

Japan is a rapidly aging society. Because the percentage of people in the population who are elderly is increasing, many are anxious about the preservation of the current welfare system. The Japanese government's budget deficit is now the highest among OECD countries. High costs for child rearing, such as tuition fees for higher education and entrance examinations for preparatory schools, promote a lower fertility rate. It is generally expected that the number of working-age people, a group with a high tax burden, will decrease in the future.

This study focuses on attitudes toward public education expenditure in overcoming the problem of expensive private investment in education. Because Japan is a parliamentary democracy, people's attitudes could be the cause of the current situation; only polling can change this condition. However, because people have consistently believed that paying for a child's education is the responsibility of the parents, it may seem natural for Japanese parents to pay for their child's education for themselves. If this is true, it might be difficult to fundamentally change this situation. In this study, I try to investigate how to overcome this dilemma by examining people's attitudes.

2. Education and Social Security or Welfare Services

2.1. People's Concern with Social Policy

Theoretically, the positive externalities of education including that education produces positive effects such as economic development and the construction of a democratic society justify public education expenditure and government intervention. The government provides people with education, social security, and welfare services. However, education has contrasting effects on social security and welfare. Not all people receive a higher education, and those who can progress to higher education tend to have more advantageous socioeconomic backgrounds. If the government invests resources in higher education institutions, this implies that the tax revenue is distributed to relatively wealthy people. In summary, higher education has a regressive function (Wilensky, 1975). Generally, social security and welfare services are intended for income redistribution, and bring greater outcome equality. However, it is thought that public investment in higher education could promote greater outcome inequality. Hence, we should not place public education expenditures on the same level as that of other social security and welfare policies[3)].

In addition, the main targets of social security and welfare are issues such as aging and unanticipated risks, which are unavoidable. As long as people are alive, they all advance in age, and everybody has the possibility of falling ill or having an accident. Everyone may have need for social security and welfare services. Of course, people can benefit from primary and secondary education. However, Japanese education is strictly based on an age-grade system, and recurrent education is not common among Japanese people. This implies that for most people, there is very little opportunity to receive further schooling once they have completed their education. With the exception of compulsory education, the choice of whether one progresses to a higher level of education is mostly dependent on the individual. In addition, child-birth and marriage can be regarded as independent choices, and some people do not believe that such personal choices should be supported by public expenditures. Although child-rearing and marriage are social issues—because we cannot maintain the welfare system without having a certain size of working-age population—for childless people, it is difficult to recognize direct benefits from these, compared to social security and welfare.

The main recipients of public investment are constituency-dependent. Generally, younger people are less likely to vote. In the United States, those who are young and have children tend to support more public education expenditure (Chew, 1992). In Japan, the proportion of younger people is decreasing due to low fertility rates. Considering these conditions, it is rational for politicians—if they wish to be elected—to support welfare policies that are oriented toward senior citizens. For example, in the southern European countries where, as in Japan, the welfare system depends on the family, social expenditures are biased towards policies such as pensions that benefit older people, and tend to undervalue education and family policies (Tepe and Vanhuysse, 2010). Consequently, it can be expected that the requirement for public education expenditure is restricted to those people who have children.

2.2. The Public Function of Education, and Privatization

Even if those who have children are more likely to be interested in education policy, this does not always imply that they support public expenditure on education. If they regard education choices as private, they are more likely to think that it is important for their children to receive a good education, but they do not necessarily care about other children or the public

nature of education. While education can equalize the status of people, it also "screens" children and allocates social position through competition inside the system. In Japanese schools, all children are assumed to have an equal latent ability, and many people think it natural that their efforts directly lead to academic achievements (Singleton, 1995; Kariya, 1995; Tsuneyoshi, 1992). Tuition fees, particularly in tertiary education, are quite expensive in Japan. Consequently, children feel indebted to their parents for their financial support, and try to return their benefit to their parents. However, these same children are relatively less likely to return such benefits to society.

In any society where many children cannot receive a basic education, it may be easier to recognize the public significance of education. On the other hand, in a schooled society, since all people have access to basic education, students need to emphasize their differences from others through education. This leads to a transition from equal education to various types of education on the basis of individuality. This can also lead to the establishment of a school-choice system. Under these conditions, people with high-level socioeconomic backgrounds are more likely to avoid public schools and choose private schools, because services provided by public schools seem to lack differentiation. Thus, parents tend to act as consumers of educational services in societies with market mechanisms. In such a society, the function of energizing public education is reduced (Olson Beal and Hendry, 2012).

In summary, children and parents with high-level socioeconomic backgrounds may be more likely to want to choose their education institutions for themselves, and may undervalue the public function of education. However, the reverse relationship could also be expected. While it is somewhat difficult to acknowledge the public function of education, education itself promotes a greater understanding of the public benefits of education. Hence, people who have completed higher education may be more likely to understand the "publicness" of education and support public expenditures on education.

2.3. Trust in the Government

The financial deficit of the Japanese government has been a serious issue in recent years, and the people's burden on the government budget is relatively small, in comparison to other countries. Considering these conditions, there is little option but to increase the tax burden in order to maintain or improve public services. Nevertheless, it is extremely difficult to accomplish this objective in Japan's current society, partly because the degree of trust the people have in the government has been extremely low. Who wants to pay more taxes to a government that has no trust among its people? There is no correlation between the size of the financial deficit and the rate of the people's burden on public expenditure. Therefore, we do not always resolve these financial problems when public services are reduced. More important here is trust in the government and the size of government debts. Although we cannot say that there is an actual causal relationship between these two variables, a government that enjoys a high degree of trust among the population appears less likely to have government debts (OECD, 2013: 32).

The Japanese government has been criticized for wasting tax revenues on useless public works, such as highway or railway construction in sparsely populated areas, and improving farmland. Under rapid economic growth, these projects raised employment in provincial areas, and transportation became more convenient. However, at the end of the period of rapid economic growth and at the start of the depopulation period, large construction and project maintenance costs became a serious social issue. In addition, people have often criticized government

workers for their relatively high salaries and low achievement, although the ratio of government workers to the population is actually comparatively low. Nevertheless, politicians aim to reduce the number of government officers and decrease salaries, because they want to be supported by their constituencies. Under these conditions, it becomes difficult to increase the tax burden, even if it is for the legitimate improvement of public services (Miyamoto, 2008).

We can argue whether or not the Japanese government can increase public education expenditure without increasing the tax burden. However, the aim of this study is not to adjudicate this controversy. In this study, I examine the relationship between people's attitudes toward public services and the related tax burden. Considering the structure of the population in Japan, it seems to be self-evident that it is impossible to maintain the current system of social security and education services in the long term. We will need to increase the tax burden some day; however, we do not want to pay increased taxes to a distrusted government. Politicians also dread the idea of tax revolts, and they are less likely to require an increase in tax burden for their constituencies. Public services become poorer under these negative reinforcing circumstances, and this implies that the government cannot increase the tax burden—although the government wants to do so—and the people have more distrust in the government. Low levels of trust in government are crucial to the preservation of the welfare state (Aghion et al., 2010).

3. Method

In examining attitudes toward public expenditure on education, we simultaneously need to investigate attitudes toward the tax burden, and trust in government. For example, if one considers the public education expenditure small, the strategy by which to increase the public education expenditure will vary, depending on whether people regard the tax burden as adequate or small. Additionally, the meaning of "trust in government" cannot be interpreted in isolation of other attitudes. The conventional approach to the analysis of attitudes is to measure the response to each item on the questionnaire, examine the distribution of responses, and apply a regression analysis on the response of interest. It would be difficult to grasp the complex relationships among people's attitudes, if we were to use the conventional method. Moreover, the responses pertaining to attitudes should not be considered continuous, since the distances between adjacent categories are unknown, even when the categories are ordinal.

To overcome the aforementioned problems, this study uses latent-class analysis (Collins and Lanza, 2010; Dayton, 1998). Latent-class analysis is likened to factor analysis on categorical variables (McCutcheon, 1987), and accompanying it, multiple manifest observable variables are assumed to be the result of a latent variable that cannot be directly observed. In the case of factor analysis, latent factors are calculated on the basis of correlations among manifest continuous variables, and the factors are estimated as continuous scores. Latent-class analysis also assumes latent factors; however, manifest variables are categorical, and each respondent is allocated to a latent class on the basis of probabilities. Collins and Lanza (2010) distinguished between variable-oriented approaches and individual-oriented approaches. Factor analysis and structural equation modeling (SEM), both of which are considered variable-oriented approaches, emphasize the relationships among variables, and they assume that these relationships apply across all individuals. In contrast, latent-class analysis as an individual-oriented approach focuses on patterns in their responses. This study tries to look for subtypes of individuals who

exhibit similar patterns in terms of attitudes (Collins and Lanza, 2010: 8).

For example, assume that there are four manifest variables, A, B, C, and D, and one latent variable X. Each manifest variable has i, j, k, and l categories, and the latent variable X has t classes. Suppose a contingency table based on these four manifest variables and one latent variable, with the probabilities of each cell being expressed as follows:

$$\pi_{ijklt}^{ABCDX} = \pi_t^X \pi_{it}^{A|X} \pi_{jt}^{B|X} \pi_{kt}^{C|X} \pi_{lt}^{D|X}$$

In this equation, π_t^X is a probability of being classified into the t^{th} category of the latent variable X, and $\pi_{it}^{A|X}$ is a conditional response rate of being classified into the i^{th} category of the manifest variable A in the t^{th} class.

In the latent-class analysis, the number of classes, t, is gradually increased. Subsequently, the degree of fit is gradually improved, and the simplest model can be adopted. Since the latent class can be regarded as a categorical variable, a multinomial logistic regression model can be estimated using latent class as a dependent variable (Yamaguchi, 2000). Once such a model has been estimated, we can calculate the probabilities of what kind of people can be allocated into specific latent classes.

It is commonly held that attitude variables are easily changeable, depending on the structure of the questionnaire and the conditions under which the respondents answered, and divisions of ordered categories seem to be arbitrary. It is important to distill a simple pattern in the latent-class analysis, and to understand contrasting responses such as "positive" or "negative," rather than subtle differences such as "very much" or "somewhat." Hence, I transformed all attitude variables into binary categories, which allowed me to estimate the stable pattern by simultaneously considering multiple binary variables.

4. Data and Variables

4.1. Data

The data used in this study come from the Japanese General Social Surveys (JGSS) in 2010. The respondents were aged between 20 and 89 at the time of the survey and were drawn randomly in a two-stage stratified sample at the end of 2009, on the basis of voting registers. The survey was conducted between February and April 2010. The survey data were collected through the combination of an interview and a self-administered questionnaire. There were two kinds of self-administered questionnaire; the data captured by using the self-administered questionnaire A was used in this study. The sample size for this subgroup was 2,507 individuals, and the response rate was 62.18%. I excluded subjects aged 70 and over, because the approach used in this paper uses occupation as a crucial independent variable, and most respondents aged 70 and over did not have a job at the time of the survey[4)]. Consequently, the sample contains 2,082 individuals.

4.2. Respondent Attitudes

I examine the attitudes toward government spending from three different points of view. The first is whether people think that government spending is sufficient or not. In the questionnaire, the following question regarding the level of public expenditure is included: "What

do you think of the amount of government spending in the following areas?" In this study, I examine responses to "education" and "social security and pensions," which were optional answers to this question. There are four possible responses: "too much," "about right," "too little," and "don't know." For the analysis, I combine the responses "too much," "about right," "don't know," and "no answer" into a single category. These alternatives are thus transformed into a binary variable: "too little" or "not too little."

Second, I focus on attitudes toward the level of tax burden, and expected services provided by the government. The questionnaire asked about this attitude as follows: "Statement A and statement B address the issue of public welfare and the public burden. Which statement is close to your opinion? Please choose a number from 1 to 4." Statement A was "Even if taxes have to be increased, public services such as welfare should be improved"; statement B was "Even if public services such as welfare have to be weakened, the tax burden should be made lighter." The alternatives were ordered in four stages. A respondent with an attitude close to A chose 1 or 2, while a respondent who had an attitude close to B chose 3 or 4. I transform this question into a binary variable as well. The response "no answer" is included in category A, which has a larger number of respondents.

Third, concerning trust in government, I focus on the question "How well do you trust them?" There were 15 items in this question, and I use "Ministries and government agencies" and "Diet members." There were four possible responses: "very much," "somewhat," "not very much," and "don't know." I transform these responses into a binary variable as well: "very much" and "somewhat" are interpreted as meaning that the respondents trusted the group in the question, and "not very much," "don't know," and "no answer" are interpreted as meaning that the respondent did not trust the group in question.

The level of government spending, tax burden, and trust in government closely intertwine with each other. Since resources are not infinite, we need to consider the level of tax burden when we require a certain level of public services. These services may enhance trust in government, and high trust may permit a certain level of tax burden. Thus, I assume that there is a latent unobservable variable behind these five manifest variables, and employ latent-class analysis.

4.3. Other Variables

After generating the variables that summarize respondent attitudes, I estimate the latent-class multinomial logit model. The dependent variable is the latent class I find in the aforementioned procedure. I also consider several independent variables.

I classified a respondent's education attainment into one of two categories: "junior high school and high school" or "college of technology [in Japanese, *Kosen*], two-year college, university, and graduate school." The JGSS survey regards "dropout" as graduation, because the number of respondents who dropped out is small and Japanese society tends to emphasize the importance of passing the entrance examination. Vocational or specialty school [in Japanese, *Semmon Gakko*] is included in the category of high school. Occupational class is based on the classification of Erikson et al. (1979), and I reclassify these into five categories: "service class," "non-manual clerical," "sales workers and farmers," "blue collar workers," and "do not have jobs." Annual household income is classified into three categories: "under 4.5 million yen," "4.5 million yen and over," and "don't know, refused, or no answer." I also considered marital status and whether or not the respondent had children, because these variables may affect attitudes

Table 1 Proportion responding “Agree” or “Applicable” to questions (N = 2,082)

Attiude Variables	Proportion
Government spending too little: Social security and pensions	.644
Government spending too little: Education	.455
Even if taxes must be increased, public services should be improved	.707
Trust: Ministries and government agencies	.451
Trust: Diet members	.288
Independent Variables	**Proportion**
Female (base category = male)	.547
Age 20-44 (base category = age 45-69)	.407
Education: Junior college, university (base category=junior or senior high school)	.421
Occupation: Non-manual clerical (base category = professional and manager)	.192
Occupation: Salesperson and farmer (base category = professional and manager)	.168
Occupation: blue-collar (base category = professional and manager)	.218
Occupation: no job (base category = professional and manager)	.285
Annual household Income: Over 450 million yen (base category= under 450 million yen)	.439
Annual household Income: Don’t know or no answer (base category= under 450 million yen)	.289
Marriage: married (base category=not married)	.737
Child: have a child under 20 (base category=do not have a child under 20)	.359

toward public expenditure on education. However, even if respondents had children, interest in education may languish if the children had already finished schooling. Therefore, I focus on whether or not the respondent had a child under age 20 at the time of the interview.

I also consider gender and age as control variables. Age is transformed into two categories—namely, “between 20 and 44,” and “between 45 and 69.” Table 1 shows the descriptive statistics of these variables.

5. Results

5.1. Selection of Latent-Class Model

The best latent-class model should be chosen during latent-class analysis. As the number of classes is gradually increased, the expected cell counts will approach the observed counts. Since latent-class analysis is based on cross-tabulation, we can calculate the likelihood-ratio statistic G^2 by comparing the observed cell counts and expected cell counts[5]. If G^2 is large relative to the degrees of freedom, the latent-class model should be rejected because the *p*-value is very small. However, if G^2 is not large relative to the degrees of freedom, the model cannot be rejected because the *p*-value is large. In the latter case, the model fits the observations. I can choose the four-class model based on this procedure.

The Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) are also standards for choosing the latent-class model: the smallest AIC or BIC model is regarded as the model of best fit. Changes to G^2 should be reviewed. If the number of classes increases, there are fewer degrees of freedom because the estimated parameter also increases. Since G^2 is approximately a chi-square distribution, we can conclude that the model is improved if the decreased G^2 is significant relative to the decreased number of degrees of freedom. According to Table 2, when one latent class increases, the degrees of freedom decrease by six. Thus, if

Table 2 Selecting number of latent classes (N = 2,082)

	N. of classes	df	G^2	p	AIC	BIC
Model1	1	26	617.512	.000	565.512	418.844
Model2	2	20	328.379	.000	288.379	175.557
Model3	3	14	54.032	.000	26.032	–52.943
Model4	4	8	10.512	.231	–5.489	–50.617
Model5	5	2	2.951	.229	–1.049	–12.332
			ΔG^2			
$G^2_{(1)}–G^2_{(2)}$			289.133			
$G^2_{(2)}–G^2_{(3)}$			274.347			
$G^2_{(3)}–G^2_{(4)}$			43.521			
$G^2_{(4)}–G^2_{(5)}$			7.561			

Table 3 Model with four latent classes of attitudes (N = 2,082)

	Class 1		Class 2		Class 3		Class 4	
Latent class prevalences	.430		.254		.235		.080	
	agree	disagree	agree	disagree	agree	disagree	agree	disagree
Government spending too little: Social security and pensions	.834	.161	.400	.600	.447	.554	.947	.053
Government spending too little: Education	.766	.234	.000	1.000	.206	.794	.959	.044
Even if taxes must be increased, public services should be improved	.760	.240	.535	.465	.718	.283	.933	.067
Trust: Ministries and government agencies	.286	.714	.153	.847	.890	.110	1.000	.000
Trust: Diet members	.132	.869	.085	.916	.665	.335	.674	.326
Latent class	High expectation, low trust		Low expectation, low trust		Low expectation, high trust		High expectation, high trust	

the degrees of freedom are lowered by six, we cannot conclude the model is improved if the G^2 decreases by more than 14.449. The difference in G^2 between models 4 and 5 implies that the model was not significantly improved, and that the simplest and best model is model 4. Although the smallest BIC is model 3, it is doubtful whether model 3 fits the observations based on the *p*-value. Consequently, this study adopts the four-class model (Collins and Lanza, 2010).

5.2. Interpretation of the Four-Class-Latent-Class Model

Table 3 shows the four estimated latent classes. The largest class consists of respondents who thought that current government spending is insufficient and a tax increase is inevitable for public services to be improved. This group does not have much trust in government; it comprises 40% of the sample. Although they are not against a tax increase, the distrust in government among members of this group is serious. They might be dissatisfied with politicians and governments, which would not suggest any effective resolutions. I call this class “high expectation, low trust.”

Class 2 consists of respondents who answered all questions negatively. Although over one-half of the respondents in this class supported a tax increase if public services were to be improved, that rate was smallest among the four classes. I call this class “low expectation, low trust.”

The size of class 3 is approximately equal to that of class 2. The members of this group trusted the government and regarded government spending as moderate. Thus, they were generally satisfied with the present condition. Over 70% of respondents in this class were not against a tax increase if public services were to be improved. I call this class "low expectation, high trust."

Class 4 included less than 10% of the sample, and they answered all included attitude questions affirmatively. They trust the government, and strongly depend on the government. I call this class "high expectation, high trust."

The attitude toward public spending on education was clearly divided into classes 1 and 4, and classes 2 and 3: the former seemed to be positive, while the latter seemed to be negative. While "high expectation" classes largely comprised those with "low trust" in government, the "low expectation" classes seemed to be evenly split between the "high trust" and "low trust" groups.

In total, the majority of respondents, regardless of allocated latent class, hope to improve public services, even if the tax burden were to increase. Miyamoto (2008) indicated that while the Japanese population might demand a high level of public services, they might not support increasng the tax burden. There seemed to be imbalance between the desired level of public services and the desired level of tax burden. However, this analysis could not find such a latent class, which would consist of people who thought public spending was too low, but who would not want to increase the tax burden[6)].

5.3. Four-Class Latent-Class Multinomial-Logit Model

Table 4 shows the result of the coefficients of the latent-class multinomial-logit model. The base category of the dependent variable is the largest class "high expectation, low trust." The two "high/low expectation" classes contrast with the two "high/low trust" classes, from the viewpoint of socioeconomic status.

The two "low expectation" classes, classes 2 and 3, were less likely to have children under 20, relative to the "high expectation, low trust" class. The members of these "low expectation" classes tended to disagree with increasing public spending on education, perhaps because they believe that they would not receive the benefits from public education. The members of "low expectation, low trust" were more likely to be young, blue-collar workers, or unemployed, and to have completed only secondary education. These people have received few benefits from public services, they might distrust public services from the outset. On the other hand, members of the "low expectation, high trust" class were more likely to have received tertiary education, although this group of people might also not have needed financial help from the government. Although the response of "no job" to the occupation question is statistically significant, these respondents might have been restricted to relatively wealthy people, such as homemakers. Thus, the "low expectation, high trust" class does not need to expect high levels of public services, and do not seem to be dissatisfied with public services.

Theoretically, the "low expectation, low trust" class may seem to be connected to a neoliberal ideology that is wary of the role of government and that calls for a reduction in public spending. Yet, this "low expectation, low trust" class cannot be explained in terms of this ideology, because over one-half of the respondents in this class expected improvements in public services, even if the tax burden had to increase. Neoliberalism is said to urge deregulation, privatization, and competition, and those who have high-level socioeconomic backgrounds

Table 4 Estimated coefficients of the multinomial logit model with four latent classes (N = 2,082)

Base = High expectation, low trust class	Low expectation, low trust			Low expectation, high trust			High expectation, high trust		
	Coef.	S.E.		Coef.	S.E.		Coef.	S.E.	
Gender (vs. male)									
Female	.154	.158		–.042	.151		–.032	.189	
Age (vs. 45–69)									
20–44	.542	.237	*	–.292	.189		–.243	.235	
Education (vs. junior or senior high school)									
Junior college or university	–.753	.212	**	.379	.168	*	.490	.263	+
Occupation (vs. Professional and manager)									
Non-manual clerical	.192	.318		.311	.252		.062	.291	
Salesperson and farmer	.493	.315		.394	.268		–.213	.347	
Blue-collar worker	.624	.304	*	.297	.260		–.545	.466	
No job	.541	.296	+	.423	.250	+	.134	.260	
Annual Household Income (vs. under 450 million yen)									
Over 450 million yen	–.324	.203		.047	.202		.526	.309	+
Don't know or No answer	.209	.218		–.008	.220		.234	.298	
Marriage (vs. not married)									
Married	–.126	.200		.107	.199		.188	.240	
Child (vs. do not have a child under 20)									
Have a child under 20	–.954	.215	**	–.332	.184	+	.134	.207	
Constant	–.122	.398		–.710	.373	+	–1.268	.696	+
Log Likelihood	–17437.158								

+<.10 *<.05 **<.01

are at a distinct advantage in a competitive society. However, these respondents tended to come from less-advantageous socioeconomic backgrounds and to have no children. This class might be dissatisfied with public services provided by the government, yet they do not or cannot refuse public such services.

Generally, those from high-level socioeconomic backgrounds were more likely to trust the government; these members accounted for about 30% of the sample. The majority of "high trust" members did not think public spending on education was lacking, although most could probably pay for their education expenses themselves, given their high-level socioeconomic backgrounds. In contrast, the "low trust" members were split into two factions with respect to public spending on education. The members of class 2—who constituted one-quarter of the total sample—might not take education into account, although over one-half of them expected improvements to public services. For them, other public services took priority over education. Consequently, even though those from high-level socioeconomic backgrounds were satisfied with the present conditions, those from the lowest-level socioeconomic backgrounds did not demand an increase in public expenditure on education. This combination of having different backgrounds among attitudes and their resulting attitudes might serve as an obstacle for education to be considered a social issue.

6. Discussion

In summary, Japanese attitudes can be classified on the basis of two dimensions: one is people's expectations for public services such as education and social security, and the other is people's trust in the government. Over 60% of Japanese people do not trust their government according to the data used in this analysis—although the respondents did expect a certain level of public services. Respondents were likely to have been dissatisfied with the level of public services and were also anxious about the viability of social security in the future.

Trust in the government was diminished substantially under circumstances of financial difficulty. This survey was conducted in 2010, before the massive earthquake and tsunami of 2011 and the accident at the nuclear power plants in Fukushima, so it is equally likely that people's trust in the Japanese government has diminished further since then. Although the government has been forced to explain the current conditions and persuade the people into accepting the tax increase, the Japanese seem to have a greater distrust in their government than they previously have.

Most Japanese probably realize that they already spend too much on their child's education, and many Japanese people would likely support increasing public expenditure on education if they were asked only about whether the government should increase public spending on education. However, the government budget is not infinite, and other priorities also need to be simultaneously considered for distribution of the budget. In the JGSS-2010 survey, there were questions asking about several policies enacted by the then governing party, and less than 60% of respondents supported child-oriented policies such as child allowances and free public senior high school tuition[7]. Since the concept of "public expenditures on education" seems to be rather general and vague in the questionnaire, respondents were likely to hold different ideas concerning the definition of "education." Since the distribution of attitudes may change depending on the definition of "education," we should reexamine this type of analysis by using other attitudinal variables. People are liable to agree with general remarks, but disagree on particulars.

Ultimately, conventional research on people's attitudes has not adequately considered multiple response patterns. If we regard these attitudinal variables as continuous, it is possible to estimate the correlation between these variables. However, in extreme cases, suppose that one-half of respondents agreed with both A and B, and the other half agreed with only A, but disagreed with B. The correlation would be zero, because the patterns offset each other. Due to the complexity of the relationships between respondent attitudes, it is inadequate to examine simple correlations. Rather, as I showed in this study, the latent-class model seems to be adequate in estimating patterns of response by which to grasp the relationships among several attitudes. Further research concerning the relationships among these attitudinal latent classes and political party support are required to effectively analyze voting patterns, because such civic-minded behavior would help to build Japan's democratic society. Another class-oriented analysis that uses other attitudinal variables would also be needed to examine the reason why many Japanese people think it is natural for parents to make private investments in education.

Acknowledgments

The data for this secondary analysis, "Japanese General Social Surveys <JGSS-2010>, the JGSS Research Center at Osaka University of Commerce," was provided by the Social Science Japan Data Archive, Center for Social Research and Data Archives, Institute of Social Science, The University of Tokyo.

Notes

1. The Ministry of Health, Labour and Welfare reported these results based on the Comprehensive Survey of Living Conditions. This score exceeded the average among OECD countries.
2. Between 2008 and 2009, after the global economic crisis, investments in educational institutions from both public and private funds increased among most OECD countries. However, such investments decreased in Japan during that same period (OECD, 2012: 241-42).
3. It was indeed possible to weaken the regressive function and adopt financial supports such as scholarships. Public spending in pre-primary education such as the Head Start Program is effective in minimizing the inequality of socioeconomic background on education attainment. Free tuition for secondary education is also considered to be effective, because most children in industrial countries receive secondary education.
4. Over one-half of men aged under 67 have jobs; the percentage of persons without jobs sharply increases at age 70, to exceed 70%.
5. Refer to Collins and Lanza (2010: 83) for a discussion of how to obtain G^2.
6. When this survey was conducted, the Democratic Party's Hatoyama Administration had rapidly lost support. Although these attitudes seem to be influenced by this trend, distinctive differences in the distribution could not be found in comparison to other JGSS datasets conducted in other years. Thus, it seems unlikely that the latent classes had changed drastically for only a number of years.
7. The child allowance was one of the featured programs suggested by the Democratic Party, because social policy toward childrearing and education had been fragile in Japan. However, this policy was often criticized as merely "scattering money" (Nihon Saiken Inishiatibu, 2013).

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