

# **The Effects of Providing Middle Options in Mail Surveys**

Based on a Comparison with Face-to-Face Surveys

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## Abstract

The NHK Broadcasting Culture Research Institute has been conducting comparative studies on surveying methodology since 2008. In March 2010, the authors carried out an experimental mail survey with the same questions used in a face-to-face public opinion survey series “The Japanese and Television.” This study focuses on findings from the comparison of distributions of responses in self-administered mail surveys and interviewer-administered face-to-face surveys.

This paper investigates whether the presence of middle options in self-administered mail surveys affects the response tendency. Two types of questionnaires, one with middle options such as “Neither agree nor disagree” and the other without these options were used and the difference in distributions of responses was analyzed.

When middle options were provided, other options showed low response rates, and vice versa. But it was also found that the balance between the extreme opposite response options remained the same. The survey also indicated that order of questions and questionnaire layout may influence the response rates of middle options. Questions asking the actual conditions of the respondents had lower rates of middle options.

It is essential for researchers to give sufficient consideration not only to the content of questions but also to various other factors such as the order of questions and numbers and forms of options in designing questionnaires.

Keywords: questionnaire design, question wording, response effect, middle option, neutral option, Mail survey

# The Effects of Providing Middle Options in Mail Surveys

## Based on a Comparison with Face-to-Face Surveys

### 1. Introduction

In 2008, the NHK Broadcasting Culture Research Institute started the Survey Methodology Project and performed a comparative study on survey methodology. In June 2008, an experimental survey was conducted in accordance with the 8th Survey on Japanese Value Orientations 2008. The experimental survey reviewed different data collection methods (face-to-face interview, drop-off/pick-up survey and mail survey) and compared the distribution of responses between the survey modes. The comparative study provided beneficial information regarding face-to-face interviews, as well as clues for standardizing methods for mail surveys. There was a difference of responses between the survey modes, with a particularly large difference between self-administered modes (drop-off/pick-up survey and mail survey) and interviewer-administered modes (face-to-face interviews). However, the difference of responses for each mode was thought to be caused by multiple factors such as social desirability, resistance to response, and the contents of the questions<sup>2)</sup>. In this way, it can be inferred that the difference of responses between survey modes varies according to factors such as survey topic, content and wording of questions, as well as arrangement of response options. It is necessary to continue to accumulate various data in order to examine mode effects.

In March 2010, NHK conducted an experimental mail survey which contained the same questions as The Japanese and Television 2010 Survey (face-to-face interview)<sup>3)</sup>, a survey which tracks popular attitudes and behavior toward television. We then compared the distribution of responses.

Furthermore, we decided to review the effects of middle options for the self-administered questionnaire. In the recent The Japanese and Television 2010 Survey, a face-to-face interview which was the subject of the comparison, there were many questions containing responses which could be interpreted as middle options, such as “Neither yes nor no.”

According to Yamada (2010), middle options encompass a wide variety of responses including 1) situations which can neither be affirmed nor denied, 2) the expression of ambiguous attitudes in which any response is applicable, and 3) situations in which the respondent has never thought of the question or cannot find an answer even after consideration.

Moreover, from a comparison of face-to-face interviews and the mail survey, Maeda (2005) gave the following summary regarding middle options: “Since mail surveys are self-administered surveys, middle options attract a much larger portion of respondents. Thus, merely not providing response options is not enough to conduct a comparative review between mail surveys and face-to-face interviews.

## 2. Research Design

Therefore, in order to conduct a comparative review for cases in which middle options are either provided or not provided, the experimental survey for the mail mode was conducted using a split ballot design (a technique in which respondents are randomly divided and distribution of responses are compared).

A summary of the surveys is shown in Table 1.

Table 1: Overview of Experimental Survey

	Experimental Survey (Mail)		Face-to-Face Interview
Survey title	The Japanese and Television 2010 Survey		The Japanese and Television 2010 Survey
Survey method	Mail survey		Face-to-face interview
Survey period	March 6–7 (Sat, Sun), 2010		March 3 (Wed) –April 16 (Fri), 2010
Sampling frame	Basic Resident Register		
Sampling method	Stratified two-stage random sampling		
Population	Japanese aged 16 and over		
Sample size	1,800(12 people×150 units)		1,800(12 people×150 units)
Number of respondents (response rate)	<i>Mail All</i>	<i>Mail A</i>	1,046(58.1%)
	1,215 (67.5%)	609 (67.7%)	

In the remainder of this report, The Japanese and Television 2010 Survey conducted using face-to-face interviews shall be abbreviated as the “*Face-to-Face*”, and the experimental survey using mail shall be abbreviated as “*Mail All*.” Furthermore, for questionnaires divided using the split ballot design, results for questionnaires providing middle options shall be referred to as “*Mail A*,” while results for questionnaires not providing such options shall be referred to as “*Mail B*.”

For the *Mail All*, systematic sampling was performed for 12 respondents from each of 150 units throughout Japan. Additionally, in order to compare the provision/non-provision of middle options, allocation was performed to achieve homogeneity among respondents. Allocation was performed for 900 respondents in *Mail A*, with odd numbers assigned to respondents in

odd-numbered units and even numbers to respondents in even-numbered units. Similarly, allocation was performed for 900 respondents in *Mail B*, with even numbers assigned to respondents in odd-numbered units and odd numbers to respondents in even-numbered units.

Based on survey design for experimental surveys as previously mentioned, this report reviews overall differences between survey modes, the difference of responses for mail surveys and face-to-face interviews, and the difference of responses due to the existence/non-existence of middle options.

### **3. Existence/Non-existence of Middle Options**

#### **(1) Comparison of Middle Options for *Mail A* and *Face-to-Face***

We shall consider the difference in response distributions of survey modes as caused by the existence/non-existence of middle options.

First, in order to compare the middle option rates in self-administered surveys and interviewer-administered surveys, we will compare *Face-to-Face* with *Mail A*, which provided middle options. Before comparing the two survey modes, Table 2 summarizes the presentation form of response options and the middle options rate for questions which provided middle options in *Mail A*. The presentation form of response options in *Face-to-Face* can be divided into 4 main types: a) cases in which the respondent is not provided with showcards (12 items), b) cases in which showcards exist only for questions (17 items), c) cases in which showcards exist for both the question and response options, but middle options including “Neither of the above” are not provided (4 items), and d) cases in which showcards exist for both the question and response options including “None of the above” (5 items).

Except for d, middle options are not provided through showcards in *Face-to-Face*. After the interviewer elicited a response from the respondent, the response was classified as “Neither/None of the above” when judged as appropriate.

In the following section, we shall examine the middle option rate for *Face-to-Face* and *Mail A*, taking the previously mentioned variations of presentation form into consideration.

Table 2: Presentation Form of Response Options and Middle Option Rate in *Mail A* and *Face-to-Face*

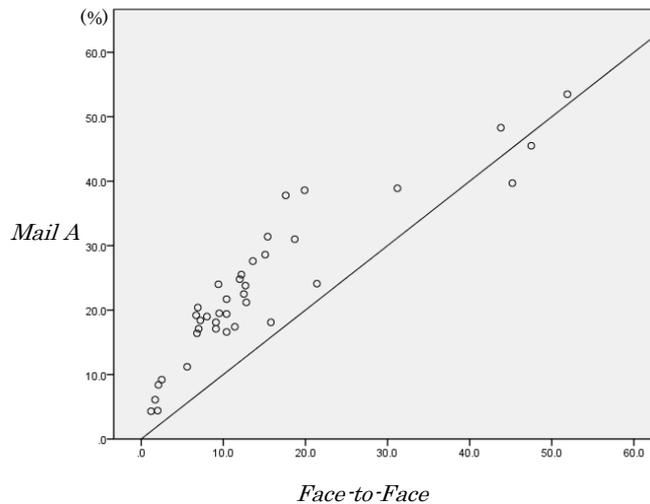
Presentation of showcards*	Question no. / Question title	Presentation form of response option	Mail A %	Face-to-Face %	Mail A – Face-to-Face %	
a	5 Television Viewing Habits	A: Do you watch alone?	Often watch alone/ Often watch with others	17.4	11.4	6.0
		B: Do you watch at a specific time?	Usually at a specific time/time varies	4.4	2.0	2.4
		C: Do you select programs yourself?	Often select myself/ Often selected by others	18.1	15.8	2.3
		D: Do you manage your time for watching television?	Often/Almost never	21.7	10.4	11.3
		E: Do you become engrossed?	Often/Almost never	31.4	15.4	16.0
		F: Do you only watch programs which interest you?	Only watch programs which I am interested in/ Also watch programs which I am not interested in	16.6	10.4	6.2
		G: Do you want to watch alone?	Want to watch alone/with others	38.9	31.2	7.7
		H: Do you feel uneasy unless the television is on?	Feel uneasy/ Don't feel uneasy	11.2	5.6	5.6
	7 Channel Surfing	Often/Almost never	19.4	10.4	9.0	
	16 Family Communication	Agree/Disagree	21.2	12.8	8.4	
26 Degree of Response	A: Selection	Yes/No	28.6	15.1	13.5	
	B: Instant Satisfaction	Yes/No	22.5	12.5	10.0	
b	9 Benefits of Television	A: Daily Information	Agree/Disagree	19.5	9.5	10.0
		B: Routine and Rhythms	Agree/Disagree	23.8	12.7	11.1
		C: Example for Ways of Living	Agree/Disagree	38.6	19.9	18.7
		D: Center of Family Communication	Agree/Disagree	25.5	12.2	13.3
		E: Conversational Topics	Agree/Disagree	19.0	8.0	11.0
		F: Comprehension of Opinions	Agree/Disagree	24.8	12.0	12.8
		G: Alternative Experience	Agree/Disagree	27.6	13.6	14.0
		H: Conversational Partner	Agree/Disagree	18.1	9.1	9.0
	22 Regarding Informatization	A: Validity	Information which I am happy to know/ Information which is not particularly useful	19.2	6.7	12.5
		B: Excess	Information is useful when making decisions/ There is an excess of information which makes me confused	16.4	6.8	9.6
		C: Value	I don't mind spending money to acquire useful information/ I don't want to spend money	20.4	6.9	13.5
	23 Mass Communication	A: Convey Facts?	Agree/Disagree	37.8	17.6	20.2
		B: Inducement through Mass Communication	Agree/Disagree	17.1	9.1	8.0
	Television Characteristics	C: Realism	Agree/Disagree	31.0	18.7	12.3
25 Orientation of Interest	A: Work or Leisure?	Work (housework) or studying./ Hobbies or leisure	24.0	9.4	14.6	
	B: Personal or Society?	Personal lifestyle/Society	17.1	7.0	10.1	
	C: Future or Present?	Future/Present	18.4	7.2	11.2	
c	6 Modern Television Viewing	A: Environment	Often/Sometimes/Almost never	6.1	1.7	4.4
		B: Glimpse	Often/Sometimes/Almost never	8.4	2.1	6.3
		C: Reference	Often/Sometimes/Almost never	9.2	2.5	6.7
		D: Assimilation	Often/Sometimes/Almost never	4.3	1.2	3.1
d	11 Image of Television Influence	A: Critical Thinking Ability	Strengthened/Weakened	45.5	47.5	-2.0
		B: Standardization	Individualized/Standardized	39.7	45.2	-5.5
		C: Violence	Curbed/Aggravated	53.5	51.9	1.6
		D: Material or Spiritual	Spiritual wealth/Material wealth	48.3	43.8	4.5
		E: Interest in Politics and Society	Strengthened/Weakened	24.1	21.4	2.7

\*The Survey (Face-to-Face Interview) included a) no showcard(s), b) showcard(s) for questions only, c) showcard(s) for both questions and response options (however, "None of the above" was not provided as a response), and d) "Neither of the above" provided as a response.

## Comparison of Middle Option Rates

In order to ascertain an overview of middle option rates in self-administered surveys and interviewer-administered surveys, we used a correlation coefficient and scatter diagram (Figure 1) to check the extent that the middle option rate agreed with *Face-to-Face*. The subject of this analysis was 38 questions in which the middle option “Neither/None of the above” was provided for *Mail A*.

Figure 1: Comparison of Middle Options in *Face-to-Face* and *Mail A*



A correlation coefficient of 0.907 was confirmed for the middle options of *Mail A* and *Face-to-Face*. The degree of similarity was slightly low when compared with the 0.976 correlation for responses of *Mail A* and *Face-to-Face* (see p.5). The scatter diagram shows that the middle option rate was higher for *Mail A*, which provided a “Neither/None of the above” response.

A similar tendency can be observed when comparing the distribution of middle options for *Mail A* and *Face-to-Face* (Table 3). An middle option rate that is less than 20 percent occurs in 47 percent of cases for *Mail A* and 84 percent for *Face-to-Face*. In other words, *Face-to-Face* has a lower middle option rate. This is a valid result when considering that, excluding d, *Face-to-Face* is composed of questions which do not provide middle options.

Table 3: Distribution of Middle Options in *Mail A* and *Face-to-Face*

Middle Options(%)	<i>Mail A</i>			<i>Face-to-Face</i>		
	No. of response options	%	Cumulative %	No. of response options	%	Cumulative %
Less than 10	5	13.2	13.2	16	42.1	42.1
10.0–19.9	13	34.2	47.4	16	42.1	84.2
20.0–29.9	11	28.9	76.3	1	2.6	86.8
30.0–39.9	6	15.8	92.1	1	2.6	89.5
40.0–49.9	2	5.3	97.4	3	7.9	97.4
50.0 or greater	1	2.6	100.0	1	2.6	100.0
Total	38	100.0		38	100.0	

### **Questions with a High Middle Option Rate**

First, we will specifically examine questions with a high rate for the middle option “Neither/None of the above” regardless of the survey mode (Table 2).

Question 11 (Image of Television Influence) is one question that had a high rate for “Neither/None of the above” in both the *Mail A* and *Face-to-Face*. In the case of *Face-to-Face*, the rate is conspicuously high because respondents are provided with showcards that includes “Neither/None of the above.” However, even in the case of *Mail A*, Question 11 has a high rate when compared to other questions. This question asks about the image of television influence including whether television curbs or aggravates delinquency and violence among juveniles. It seems that this question was difficult for respondents to answer.

Another question for which middle options were selected regardless of the survey mode was Question 5G, which asks whether or not respondents “want to watch television alone”. In the case of Question 5G, the large number of selected middle options is probably due to the fact that respondents want to watch television alone or want to watch together with others depending on the situation. As already stated, for the face-to-face interview, after the interviewer has elicited a response from the respondent, the response was classified as “Neither/None of the above” when judged as appropriate. Therefore, it can be inferred that many respondents answered that their desire to watch television alone depends on the situation.

Question 23 also had a relatively large number of responses for middle options. Respondents were asked questions such as “Is the information conveyed by mass communication almost entirely based on facts?” and “Does watching television give you a sense of realism like you are actually viewing or hearing the contents?” It can be inferred that this was also a difficult question to answer.

### **Questions with a Low Middle Option Rate**

Conversely, Question 6 had a low middle option rate in the case of both the *Mail A* and *Face-to-Face*. This question asks respondents about the modern way of watching television.

In *Face-to-Face*, a 3-point scale with the responses “Often”, “Sometimes” and “Almost never” was provided for Question 6. It can be inferred that it was easy for respondents to select one of the prepared response options.

Additionally, this question was probably easy to answer because it asked about usual behavior related to television viewing. For example, respondents were asked to reply to statements such as “I turn on the television as soon as I return home” and “I turn on the television and watch only when

something interests me.”

Even in the case of *Mail A*, the middle option rate of Question 6 was conspicuously low when compared to other questions. When asking about frequency, it may not be necessary to include the middle option “Neither/None of the above”. However, this may be limited only to questions related to actual conditions.

For *Face-to-Face*, other than Question 6, questions with relatively few responses to middle options were Question 5B (Television Viewing Habits: Do you watch at a specific time?), Question 22 (Regarding Informatization), and Question 25 (Orientation of Interest). These questions were most likely easy for respondents to answer for the following reasons: Question 5B asks about actual conditions regarding the time at which television is viewed. Question 22 provides Option 1 and Option 2, and regardless which response option is selected the contents are innocuous. Question 25 concerns a topic which is vaguely considered during daily life. According to Yamada (2010), “If the assumption that ‘almost all respondents have thought about the problem and are capable of producing a response’ is valid, it is preferable not to include the response option ‘Neither/None of the above.’” Although the middle option rate is fairly high in Question 25 of the *Mail A*, there are cases in which it is preferable not to provide middle options for problems which are considered by respondents during daily life.

### **Cases with Difference in the Middle Option Rate**

In *Mail A* and *Face-to-Face*, questions with particularly large differences in middle option rates are Question 23A, which asks whether the information conveyed by mass communication is almost entirely based on facts, and Question 9C, which asks whether television provides examples for ways of living and behavior. The response difference for Question 23A is 20 percent and Question 9C is 19 percent. *Mail A* has a higher middle option rate. The rate is 38–39 percent for both questions in *Mail A*, and it can be said that respondents were unsure of how to answer. Conversely, in *Face-to-Face*, only questions were provided on the showcards. Respondents were instructed to select one of two options “I agree” or “I disagree” when answering the questions. As a result, the middle option rate was much less than the mail survey and a difference occurred between the survey modes.

**(2) Influence Exerted on Other Response Options by Middle Options**

**Response Difference Depending on the Existence/Non-existence of Middle Options**

Next, in order to consider the influence exerted on other response options by the existence/non-existence of middle options, analysis was performed for 38 questions. The questions consisted of those for which “Neither/None of the above” was provided as a response in *Mail A*. A comparison was made between *Mail A* and *Mail B*, which did not provide middle options. (Middle options and nonresponses were excluded from the comparison.)

Table 4 shows the distribution of absolute values for response differences. Response differences range from less than 5 percent to 20 percent or more. Furthermore, when compared to *Mail B* which does not provide middle options, the responses for *Mail A* were 10 percent lower on average. The difference between the minimum and maximum value, as well as the standard deviation regarding the comparison of *Mail A* and *B* was large (Table 5).

Table 4: Distribution of Absolute Value for Response Differences in *Mail A* and *Mail B*

Absolute value for response (%) difference	<i>Mail A – Mail B</i>		
	No. of response options	%	Cumulative %
Less than 5.0	17	24.3	24.3
5.0-9.9	19	27.1	51.4
10.0-14.9	18	25.7	77.1
15.0-19.9	12	17.1	94.3
20.0 or greater	4	5.7	100.0
Total	70	100.0	

\*Only questions in *Mail A* for which “Neither/None of the above” was provided as a response option (excluding nonresponses and middle options)

Table 5: Minimum, Maximum, Average and Standard Deviation for Response Differences

in *Mail A* and *Mail B*

	<i>Mail A – Mail B</i>
Minimum	-22.2
Maximum	3.7
Average	-9.8
Standard deviation	6.3

\*Only questions in *Mail A* for which “Neither/None of the above” was provided as a response option (excluding nonresponses and middle options)

When examining a breakdown for questions with small response differences (Table 6), there are many questions which ask about actual conditions. Examples are “Do you usually watch

television at a specific time?” (Question 5B), “I turn on the television as soon as I return home” (Question 6A), and “I turn on the television and watch only when something interests me” (Question 6B).

Table 6: Questions with Small Difference in *Mail A* and *Mail B*

Question no.	Question		Response option	<i>Mail A – Mail B %</i>
5B	Television Viewing Habits	B: Do you watch at a specific time?	1. Usually at a specific time	0.2
22B	Regarding Informatization	B: Excess	2. Option 2: There is an excess of various information which often makes me confused	0.3
6D	Modern Television Viewing	D: Assimilation	1. Often	0.6
6B	Modern Television Viewing	B: Glimpse	3. Almost never	1.0
6A	Modern Television Viewing	A: Environment	3. Almost never	1.2
6A	Modern Television Viewing	A: Environment	1. Often	2.2
6B	Modern Television Viewing	B: Glimpse	1. Often	2.4

Conversely, questions with a large response difference (Table 7) include “Is the information conveyed by mass communication almost entirely based on facts?” (Question 23A), “Does television provide examples for ways of living and behavior?” (Question 9C), and “Do you want to watch television alone?” (Question 5G). In general, regarding these questions, *Mail A* had a high middle option rate, and thus, respondents might have been unsure how to respond.

Table 7: Questions with Big Difference in *Mail A* and *Mail B*

Question no.	Question		Response option	<i>Mail A – Mail B %</i>
23A	Mass Communication	A: Convey facts?	2. Disagree	22.2
9C	Benefits of Television	C: Example for Ways of Living	2. Disagree	20.8
26A	Degree of Response	A: Selection	2. No	20.4
9F	Benefits of Television	F: Comprehension of Opinions	1. Agree	20.4
5G	Television Viewing Habits	G: Do you want to watch television alone?	1. Want to watch alone	19.4
9C	Benefits of Television	C: Example for Ways of Living	1. Agree	19.0

## **Overall Response Trends and Existence/Non-existence of Middle Options**

Until now, we have confirmed the distribution and magnitude of response differences for *Mail A* and *Mail B*. We will now examine specific response trends.

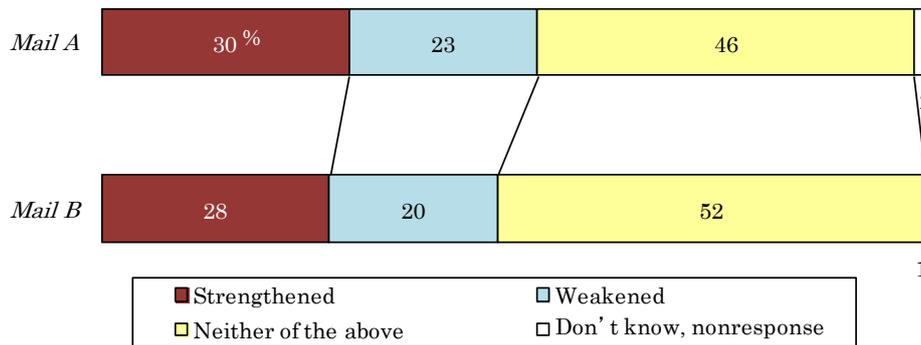
Overall, essentially the same response trends as *Mail A* can be observed in *Mail B*, which does not provide middle options. However, when middle options are not provided, the ‘pro’ and ‘anti’ sides of the responses result in a more emphasized way. This result supports the previous research of Kalton et al (Suzuki 2000) which states the following: “Providing middle options results in an increase of responses for middle options. However, this increase comes proportionally from both of the extreme opposite responses. Therefore, there is no change in the balance between ‘pro’ and ‘anti.’” In other words, although the provision (non-provision) of middle options causes a decrease (increase) in the rate for other response options, there is no change in the balance between the extreme opposite response options.

There was no clear trend that particular response options were selected as a result of existence/non-existence of middle options. However, like in the case of Question 6, the response option “Sometimes” attracted many respondents in *Mail B*. Although *Mail B* does not provide middle options, it does provide a 3-point scale of response options: “Often,” “Sometimes,” and “Almost never.” In this case, “Sometimes” is in the midpoint of the 3 points, and there is a possibility that it took the position of a middle option.

## **Middle Option Rate Affected by Order Effects of Questions**

The order and layout of questions in the questionnaire result in an order effect of questions. This order effect may influence the middle option rate. In *Mail A*, middle options are provided for Questions 5 to 9 (excluding Question 8). In contrast, such responses are not provided in *Mail B*. Therefore, the first middle option provided in *Mail B* is the “Neither/None of the above” response for Question 11. As a result, this middle option in *Mail B* attracted more respondents than in *Mail A* (Figure 2). According to a report by the Institute of Statistical Mathematics, when a question which provides a middle option is placed between questions without middle options, there is the possibility that respondents feel that the middle option is appealing (Maeda, 2005). There is a possibility that this kind of psychological process was at work in the current experiment as well.

Figure 2: Image of Television Influence (Critical Thinking Ability)



#### 4. Conclusion

The current experimental survey attempted to verify whether or not differences occur in overall response trends depending on the existence/non-existence of middle options in a self-administered survey. The following differences were observed from survey results.

- When middle options not provided for the face-to-face interview are provided for the mail survey, the middle option rate tends to be higher than the face-to-face interview.
- The middle option rate tends to be lower for questions which concern actual conditions or for questions which are considered by the respondent on a daily basis.
- When there is a succession of questions without middle options, the order effect of subsequent questions may influence the middle option rate.
- When middle options are not provided, there may be a decrease in the number of nonresponses.
- Even for the same self-administered survey, the existence/non-existence of middle options may result in significant differences for other selected response options.
- Although the provision (non-provision) of middle options causes a decrease (increase) in the rate for other response options, there is no change in the balance between the extreme opposite response options.
- Depending on the existence/non-existence of middle options, there may be questions for which certain response options attract many respondents. However, it is difficult to find a principle for this phenomenon from the results of the experimental survey.

Furthermore, there was a high middle option rate when they were provided in the list of response options for face-to-face interviews. Moreover, even if such response options are not provided, the middle option rate may increase due to the contents of questions and the form in which response options are presented.

The results of the current survey do not enable us to make a blanket statement regarding in what cases middle options should be provided or not provided. However, when considering whether or not to provide middle options in designing a questionnaire, it is necessary to consider a variety of factors, not only question content, but also order effect, and the number/form of response options.

Notes:

- 1) The following members of the Public Opinion Research Division were involved in planning, implementation and analysis for the 2010 experimental mail survey:  
Hiroshi Aramaki, Noriko Onodera, Kei Kono, Hiroshi Kojima, Hiroshi Nakaaki, Kumiko Nishi, Miwako Hara, Hiroko Murata.
- 2) Detailed results for the Comparative Experimental Survey 2008 were reported in The Annual Bulletin of NHK Broadcasting Culture Research Institute 2010 (Survey Methodology Project 2010).

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## The Japanese and Television 2010 Survey

## Survey Outline

	<i>Face-to-Face</i>	<i>Mail A</i>	<i>Mail B</i>
Survey Period	March 6–7 (Sat, Sun), 2010	March 3 (Wed)–April 16 (Fri), 2010	
Survey Method	Face-to-face interview	Mail survey	
Sampling frame	Basic Resident Register		
Sampling method	Stratified two-stage random sampling		
Population	Japanese aged 16 and older		
Sample size	1,800(12people ×150units)	900(6people×150 units) * Respondents allocated to questions which provide middle options	900(6people×150 units) * Respondents allocated to questions which do not provide middle options
Number of respondents (Response Rate)	1,046 (58.1%)	609 (67.7%)	606 (67.3%)

\* Split-ballot design

## Questions &amp; Marginal Distributions

## &lt;Regarding Notation&gt;

- The questions listed were used for the mail survey.
- Response options shown in the showcards for the face-to-face interview are printed in **boldface**.
- Numbers shown in the table are the number of responses for each response option, divided by the total number of responses for each survey, displayed as a percentage (%) (rounded to the second decimal place).
- Inequality signs in the table are statistical test results from a comparison of *Face-to-Face* and *Mail A*, and *Mail A* and *Mail B* (95% confidence level).
- A result of “—” shows that there were no response options.

## -Television Viewing Habits-

A: Do you watch alone?

Question 5A: Please answer the following series of questions on your television viewing habits. (Circle one response for each question from A to H)

A: Do you often watch television alone? Or do you often watch with other people?

	<i>F-to-F</i>		<i>Mail A</i>		<i>Mail B</i>	
1. Often watch alone	42.5		43.2	<	50.3	%
2. Often watch with others	44.6	>	38.6	<	48.8	
3. Neither of the above	11.4	<	17.4		—	
4. No response	1.5		0.8		0.8	

B: Do you watch at a specific time?

Question 5B: B. Do you usually watch television at a specific time? Or does the time when you watch television vary?

	<i>F-to-F</i>		<i>Mail A</i>		<i>Mail B</i>	
1. Usually at a specific time	75.0	<	80.8		81.0	%
2. Time varies	21.4	>	13.8	<	18.0	
3. Neither of the above	2.0	<	4.4		—	
4. No response	1.5		1.0		1.0	

C: Do you select programs yourself?

Question 5C: C. Do you often personally select the programs that you view? Or do other people often select the programs?

	<i>F-to-F</i>		<i>Mail A</i>		<i>Mail B</i>	
1. Often select myself	61.6		66.2	<	79.7	%
2. Often selected by others	20.7	>	15.1		19.3	
3. Neither of the above	15.8		18.1		—	
4. No response	1.9	>	0.7		1.0	

D: Do you manage your time for watching television?

Question 5D: D. Do you often manage your time so that you are able to watch television? Or do you almost never manage your viewing time?

	<i>F-to-F</i>		<i>Mail A</i>		<i>Mail B</i>	
1. Often	20.8		24.0		27.6	%
2. Almost never	66.7	>	53.5	<	71.1	
3. Neither of the above	10.4	<	21.7		—	
4. No response	2.0		0.8		1.3	

E: Do you become engrossed?

Question 5E: E. Do you often become engrossed when viewing television? Or do you almost never become engrossed?

	<i>F-to-F</i>		<i>Mail A</i>		<i>Mail B</i>	
1. Often	43.5		39.7	<	55.4	%
2. Almost never	39.4	>	28.1	<	43.1	
3. Neither of the above	15.4	<	31.4		—	
4. No response	1.7		0.8		1.5	

F: Do you only watch programs which interest you?

Question 5F: F. Do you only watch television programs which interest you? Or do you watch programs which are not of particular interest?

	<i>F-to-F</i>		<i>Mail A</i>		<i>Mail B</i>	
1. Only watch programs which I am interested in	60.0		57.1	<	70.3	%
2. Also watch programs which I am not interested in	27.7		25.6		28.7	
3. Neither of the above	10.4	<	16.6		—	
4. No response	1.8		0.7		1.0	

G: Do you want to watch alone?

Question 5G: G. Do you want to watch television alone? Or do you want to watch with others?

	<i>F-to-F</i>		<i>Mail A</i>		<i>Mail B</i>	
1. Want to watch alone	36.3		37.4	<	56.8	%
2. Want to watch with others	30.1	>	22.7	<	41.4	
3. Neither of the above	31.2	<	38.9		—	
4. No response	2.4	>	1.0		1.8	

H: Do you feel uneasy unless the television is on?

Question 5H: H. Do you feel uneasy unless the television is on? Or do you not experience such feelings of uneasiness?

	<i>F-to-F</i>		<i>Mail A</i>		<i>Mail B</i>	
1. Feel uneasy	16.6		19.2	<	24.1	%
2. Don't feel uneasy	76.1	>	68.1	<	74.9	
3. Neither of the above	5.6	<	11.2		—	
4. No response	1.6		1.5		1.0	

-Modern Television Viewing-

A: Environment

Question 6A: Do your television viewing habits coincide with the behaviors listed below? Which of the following apply? (Circle one response for each question from A to D)

A. I turn on the television as soon as I return home

	<i>F-to-F</i>	<i>Mail A</i>	<i>Mail B</i>	
<b>1. Often</b>	40.8	39.4	41.6	%
<b>2. Sometimes</b>	22.8	26.9	<	32.2
<b>3. Almost never</b>	33.1	>	26.3	25.1
4. None of the above	1.7	<	6.1	—
5. No response	1.5	1.3	1.2	

B: Glimpse

Question 6B: B. I turn on the television and watch only when something interests me.

	<i>F-to-F</i>	<i>Mail A</i>	<i>Mail B</i>	
<b>1. Often</b>	30.3	26.8	29.2	%
<b>2. Sometimes</b>	32.6	36.5	<	43.4
<b>3. Almost never</b>	32.5	>	27.1	26.1
4. None of the above	2.1	<	8.4	—
5. No response	2.5	1.3	1.3	

C: Reference

Question 6C: C. I watch while comparing with other programs and information regarding the cast.

	<i>F-to-F</i>	<i>Mail A</i>	<i>Mail B</i>		
<b>1. Often</b>	15.6	14.4	<	19.5 %	
<b>2. Sometimes</b>	21.1	<	30.5	<	38.1
<b>3. Almost never</b>	57.8	>	44.8	41.1	
4. None of the above	2.5	<	9.2	—	
5. No response	3.0	>	1.0	1.3	

D: Assimilation

Question 6D: D. I make jokes to the television while watching

	<i>F-to-F</i>	<i>Mail A</i>	<i>Mail B</i>		
<b>1. Often</b>	10.3	12.0	11.4	%	
<b>2. Sometimes</b>	24.5	<	35.6	<	45.4
<b>3. Almost never</b>	62.0	>	45.8	42.1	
4. None of the above	1.2	<	4.3	—	
5. No response	2.0	2.3	1.2		

-Channel Surfing-

Question 7: Do you often channel surf using the remote control? Or do you almost never engage in channel surf? (Circle one)

	<i>F-to-F</i>	<i>Mail A</i>	<i>Mail B</i>		
1. Often	34.9	37.8	<	43.7 %	
2. Almost never	52.6	>	40.1	<	52.8
3. Neither of the above	10.4	<	19.4	—	
4. Do not own a remote control	0.3	<	1.1	<	3.0
5. No response	1.8	1.6	0.5		

**-Benefits of Television-**

**A: Daily Information**

Question 9A: This section contains questions on the relationship between television and your lifestyle. Please answer items A to H listed below. (Circle one response for each question from A to H)

**The Existence of Television**

A. makes it possible to obtain essential information for daily life.

	<i>F-to-F</i>		<i>Mail A</i>		<i>Mail B</i>	
1. Agree	73.1		68.6	<	76.1	%
2. Disagree	15.0	>	10.2	<		
3. Neither of the above	9.5	<	19.5		—	
4. No response	2.4		1.6		0.5	

**B : Routine and Rhythms**

Question 9B: B. provides a source of routine or rhythm in daily activities.

	<i>F-to-F</i>		<i>Mail A</i>		<i>Mail B</i>	
1. Agree	44.1		48.8	<	59.1	%
2. Disagree	40.8	>	25.1	<	40.1	
3. Neither of the above	12.7	<	23.8		—	
4. No response	2.4		2.3	>	0.8	

**C : Example for Ways of Living**

Question 9C: C. provides examples for ways of living and behavior

	<i>F-to-F</i>		<i>Mail A</i>		<i>Mail B</i>	
1. Agree	43.4	>	33.3	<	52.3	%
2. Disagree	33.7	>	26.1	<	46.9	
3. Neither of the above	19.9	<	38.6		—	
4. No response	3.0		2.0		0.8	

**D : Center of Family Communication**

Question 9D: D. is useful for family communication.

	<i>F-to-F</i>		<i>Mail A</i>		<i>Mail B</i>	
1. Agree	64.7		60.6	<	73.6	%
2. Disagree	20.1	>	11.8	<	25.6	
3. Neither of the above	12.2	<	25.5		—	
4. No response	3.0		2.1		0.8	

**E : Conversational Topics**

Question 9E: E. makes it possible to obtain conversational topics.

	<i>F-to-F</i>		<i>Mail A</i>		<i>Mail B</i>	
1. Agree	75.1		71.1	<	83.7	%
2. Disagree	14.4	>	8.0	<	15.7	
3. Neither of the above	8.0	<	19.0		—	
4. No response	2.4		1.8		0.7	

**F : Comprehension of Opinions**

Question 9F: F. makes it possible to comprehend a variety of opinions and ways of thinking.

	<i>F-to-F</i>		<i>Mail A</i>		<i>Mail B</i>	
1. Agree	74.6	>	65.2	<	85.6	%
2. Disagree	10.5		8.0	<	13.7	
3. Neither of the above	12.0	<	24.8		—	
4. No response	3.0		2.0	>	0.7	

G : Alternative Experience

Question 9G: G. makes it possible to get a taste of experiences not obtainable in reality.

	<i>F-to-F</i>	<i>Mail A</i>	<i>Mail B</i>	
1. Agree	55.4	51.2	<	63.2 %
2. Disagree	26.9	19.0	<	36.0
3. Neither of the above	13.6	27.6		—
4. No response	4.1	2.1		0.8

H : Conversational Partner

Question 9H: H. is a substitute for a conversational partner.

	<i>F-to-F</i>	<i>Mail A</i>	<i>Mail B</i>	
1. Agree	17.4	18.1	<	25.7 %
2. Disagree	70.7	62.1	<	73.3
3. Neither of the above	9.1	18.1		—
4. No response	2.9	1.8		1.0

-Image of Television Influence-

A: Critical Thinking Ability

Question 11A: This section contains questions on the influence of television. Select the response which is closest to your opinion from A to E listed below. (Circle one response for each question A to E)

A. Television has \_\_\_\_\_ people's ability to think critically.

	<i>F-to-F</i>	<i>Mail A</i>	<i>Mail B</i>	
<b>1. Strengthened</b>	34.2	29.9		27.6 %
<b>2. Weakened</b>	14.1	22.8	<	20.3
<b>3. Neither of the above</b>	47.5	45.5	<	51.7
4. No response	4.2	1.8	>	0.5

B : Standardization

Question 11B: B. Television has \_\_\_\_\_ people's lifestyles.

	<i>F-to-F</i>	<i>Mail A</i>	<i>Mail B</i>	
<b>1. Individualized</b>	11.6	9.5		10.4 %
<b>2. Standardized</b>	37.3	48.3	<	48.3
<b>3. Neither of the above</b>	45.2	39.7	>	40.8
4. No response	5.9	2.5	>	0.5

C : Violence

Question 11C: C. Television has \_\_\_\_\_ delinquency and violence among youth.

	<i>F-to-F</i>	<i>Mail A</i>	<i>Mail B</i>	
<b>1. Curbed</b>	8.1	9.2	>	3.6 %
<b>2. Aggravated</b>	35.0	35.3		37.5
<b>3. Neither of the above</b>	51.9	53.5		58.6
4. No response	5.0	2.0	>	0.3

D : Material or Spiritual

Question 11D: D. Television made people prioritize \_\_\_\_\_.

	<i>F-to-F</i>	<i>Mail A</i>	<i>Mail B</i>	
<b>1. Spiritual wealth</b>	25.1	16.3	>	18.0 %
<b>2. Material wealth</b>	26.1	33.7	<	30.9
<b>3. Neither of the above</b>	43.8	48.3		50.5
4. No response	5.0	1.8	>	0.7

E : Interest in Politics and Society

Question 11E: E. Television has \_\_\_\_\_ people's interest in politics and society.

	<i>F-to-F</i>	<i>Mail A</i>	<i>Mail B</i>	
1. Strengthened	72.3	68.6	66.2	%
2. Weakened	2.6 <	5.7	4.1	
3. Neither of the above	21.4	24.1	29.0	
4. No response	3.7 >	1.5	0.7	

-Family Communication-

Question 16: Do you feel that you talk a lot with your family in everyday life? Or do you not feel so? (Circle one)

	<i>F-to-F</i>	<i>Mail A</i>	<i>Mail B</i>	
1. Agree	65.8 >	57.6 <	68.0	%
2. Disagree	16.0	16.1 <	25.7	
3. Neither of the above	12.8 <	21.2	—	
4. I have no family	3.7	4.8	6.1	
5. No response	1.7 >	0.3	0.2	

-Regarding Informatization-

A: Validity

Question 22A: We are able to acquire a variety of information from sources such as television and newspapers. Items A to C listed below provide positive and negative viewpoints. Which viewpoint is closest to your feelings? (Select one response for each question from A to C)

A.

	<i>F-to-F</i>	<i>Mail A</i>	<i>Mail B</i>	
1. Option 1: There is a large amount of information which I am happy to know	70.8	66.5 <	77.4	%
2. Option 2: There is a large amount of information which is not particularly useful	18.5 >	13.0 <	20.8	
3. Neither of the above	6.7 <	19.2	—	
4. No response	4.0 >	1.3	1.8	

B : Excess

Question 22B: B.

	<i>F-to-F</i>	<i>Mail A</i>	<i>Mail B</i>	
1. Option 1: A variety of information is useful when making decisions	52.8	48.8 <	65.3	%
2. Option 2: There is an excess of various information which often makes me confused	35.9	33.2	33.5	
3. Neither of the above	6.8 <	16.4	—	
4. No response	4.6 >	1.6	1.2	

C : Value

Question 22C: C.

	<i>F-to-F</i>	<i>Mail A</i>	<i>Mail B</i>	
1. Option 1: I don't mind spending a substantial amount of money in order to acquire useful information	16.5 >	8.7 <	13.5	%
2. Option 2: I don't want to spend a substantial amount of money on information even if it is useful	71.8	68.6 <	85.0	
3. Neither of the above	6.9 <	20.4	—	
4. No response	4.8 >	2.3	1.5	

-Mass Communication-

A: Convey Facts?

Question 23A: What is your opinion regarding the views in A to C listed below? (Circle one response for each question from A to C)

A. The information conveyed by mass communication is almost entirely based on facts.

	<i>F-to-F</i>		<i>Mail A</i>		<i>Mail B</i>	
1. Agree	25.5	>	20.4	<	35.6	%
2. Disagree	52.3	>	41.2	<	63.4	
3. Neither of the above	17.6	<	37.8		—	
4. No response	4.6	>	0.7		1.0	

B : Inducement through Mass Communication

Question 23B: B. People's opinions are often swayed in accordance with information conveyed through mass communication without realizing.

	<i>F-to-F</i>		<i>Mail A</i>		<i>Mail B</i>	
1. Agree	75.3		74.5	<	83.7	%
2. Disagree	10.9	>	7.4	<	15.5	
3. Neither of the above	9.1	<	17.1		—	
4. No response	4.7	>	1.0		0.8	

-Television Characteristics-

C:Realism

Question 23C: C. Watching television gives me a sense of realism like I am actually viewing or hearing the contents.

	<i>F-to-F</i>		<i>Mail A</i>		<i>Mail B</i>	
1. Agree	36.9	>	30.0	<	45.9	%
2. Disagree	39.8		37.4	<	53.1	
3. Neither of the above	18.7	<	31.0		—	
4. No response	4.6	>	1.5		1.0	

-Orientation of Interest-

A: Work or Leisure?

Question 25A: On a different subject, when comparing Option 1 and Option 2 as listed in A to C below, which one interests you most? (Select one response for each question from A to C)

A.

	<i>F-to-F</i>		<i>Mail A</i>		<i>Mail B</i>	
<b>1. Option 1: Work (housework) or studying</b>	47.7	>	35.8	<	46.9	%
<b>2. Option 2: Hobbies or leisure</b>	39.4		38.6	<	51.7	
3. Neither of the above	9.4	<	24.0		—	
4. No response	3.5	>	1.6		1.5	

B: Personal or Society?

Question 25B: B.

	<i>F-to-F</i>		<i>Mail A</i>		<i>Mail B</i>	
<b>1. Option 1: Personal lifestyle</b>	71.5	>	62.9	<	72.6	%
<b>2. Option 2: Society</b>	18.0		18.4	<	25.9	
3. Neither of the above	7.0	<	17.1		—	
4. No response	3.5	>	1.6		1.5	

C : Future or Present?

Question 25C: C.

	<i>F-to-F</i>		<i>Mail A</i>		<i>Mail B</i>	
<b>1. Option 1: Future</b>	33.7		38.3		43.2	%
<b>2. Option 2: Present</b>	55.4	>	40.6	<	55.3	
3. Neither of the above	7.2	<	18.4		—	
4. No response	3.7		2.8		1.5	

-Degree of Response-

A: Selection

Question 26A: This section contains questions on your personality. Please select one answer for questions A and B.

A. When you desire something, do you search until you are satisfied? (Circle one)

	<i>F-to-F</i>	<i>Mail A</i>	<i>Mail B</i>
1. Yes	43.4	44.7 <	52.6 %
2. No	38.9 >	26.3 <	46.7
3. Neither of the above	15.1 <	28.6	—
4. No response	2.6 >	0.5	0.7

B : Instant Satisfaction

Question 26B: B. Are you disturbed when something that you desire cannot be obtained immediately? (Circle one)

	<i>F-to-F</i>	<i>Mail A</i>	<i>Mail B</i>
1. Yes	14.6 <	18.9	23.3 %
2. No	70.1 >	57.6 <	76.1
3. Neither of the above	12.5 <	22.5	—
4. No response	2.8 >	1.0	0.7

### Marginal Distributions of Background variables

Survey mode	Total	Men/Women		Age group			Men age group			Women age group		
		Men	Women	16–39	40–59	60 and older	16–39	40–59	60 and older	16–39	40–59	60 and older
<i>Face-to-Face</i>	1,046	484	562	288	335	423	140	154	190	148	181	233
	100.0%	46.3	53.7	27.5	32.0	40.4	13.4	14.7	18.2	14.1	17.3	22.3
<i>Mail A</i>	609	265	344	194	198	217	85	86	94	109	112	123
	100.0%	43.5	56.5	31.9	32.5	35.6	14.0	14.1	15.4	17.9	18.4	20.2
<i>Mail B</i>	606	266	340	194	184	228	84	78	104	110	106	124
	100.0%	43.9	56.1	32.0	30.4	37.6	13.9	12.9	17.2	18.2	17.5	20.5

### Response rates

		Total	Men/Women		Age group			Men age group			Women age group		
			Men	Women	16–39	40–59	60 and older	16–39	40–59	60 and older	16–39	40–59	60 and older
<i>Face-to-Face</i>	Issued sample	1,800	874	926	649	551	600	337	265	272	312	286	328
	Number of respondents	1,046	484	562	288	335	423	140	154	190	148	181	233
	Response rate	58.1%	55.4	60.7	44.4	60.8	70.5	41.5	58.1	69.9	47.4	63.3	71.0
<i>Mail A</i>	Issued sample	900	427	473	330	277	293	163	130	134	167	147	159
	Number of respondents	609	265	344	194	198	217	85	86	94	109	112	123
	Response rate	67.7%	62.1	72.7	58.8	71.5	74.1	52.2	66.2	70.2	65.3	76.2	77.4
<i>Mail B</i>	Issued sample	900	440	460	321	273	306	150	145	145	171	128	161
	Number of respondents	606	266	340	194	184	228	84	78	104	110	106	124
	Response rate	67.3%	60.5	73.9	60.4	67.4	74.5	56.0	53.8	71.7	64.3	82.8	77.0