

Does the Japanese Society for Hygiene need its own Code of Conduct? A comparison of the responses of councilors and junior members based on a questionnaire survey

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Abstract

Objective The purpose of this study was to compare current awareness of the “On a Code of Conduct for Scientists” (OCCS) among members of the Japanese Society for Hygiene (JSH).

Method An anonymous self-administered questionnaire was mailed to JSH members, including 439 councilors and 376 junior members (who were under 50 years of age with a membership of 3 years or longer, excluding councilors).

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Councilors were surveyed from November to December 2007, while junior members were surveyed from November to December 2008.

Results The overall response rate was 40.6% ($n = 331/815$), with responses from 46.7% of the councilors ($n = 205/439$) and 33.5% of the junior members ($n = 126/376$). Among the respondents, 36.0% of councilors ($n = 68$) and 59.8% of junior members ($n = 73$) did not know the contents of “On the Code of Conduct for Scientists” ($P < 0.01$), while 76.3% of councilors ($n = 145$) and 61.4% of junior members ($n = 75$) had not heard of it ($P < 0.05$). However, a majority of the respondents reported interest in the Code [70.0% of councilors ($n = 133$), 68.6% of junior members ($n = 83$)] ($P < 0.05$) and a favorable attitude towards research ethics education [69.3% of councilors ($n = 133$), 68.9% of junior members ($n = 84$)] ($P < 0.54$). In addition, 24.3% of the responding councilors ($n = 46$) and 15.7% of the responding junior members ($n = 19$) believe it necessary for JSH to formulate its own code of conduct for scientists ($P < 0.01$).

Conclusion We clarified the current state of awareness of the OCCS among JSH members as well as the opinion of members for the JSH to have its own Code of Conduct for Scientists. This result provides important information that should be considered during the formulation of an individual code of conduct for scientists in the JSH.

Keywords Code of Conduct for Scientists · Self-administered questionnaire · Mail survey

Introduction

In recent years, the conduct of scientists in matters related to research, including incidents that have raised publicly

expressed doubts on ethics issues, has received attention both home and abroad [1–3].

Against such a background, the Science Council of Japan formulated “On a Code of Conduct for Scientists” (OCCS) in October 2006 following an investigation on the ethics of scientists by the “Permanent Committee on Science and Society” [4]. Within the Board of Directors of the Japanese Society for Hygiene (JSH), there is an ongoing debate regarding the OCCS, with some members feeling that the Science Council of Japan’s code of conduct provides sufficient guidelines, while others feel that individual universities, research institutions, and academic societies need their own code of conduct.

Accordingly, the ethics committee of the JSH conducted “A Survey of the Current Situation Regarding Codes of Conduct for Scientists” among 439 councilors of the JSH from November to December 2007 [5, 6]. This initial survey prompted a subsequent survey of junior members (who were under 50 years of age with ≥ 3 years of membership, excluding councilors) from November to December 2008 due to the prevailing opinion that “there also needs to be a survey of the current situation among the younger generation who would be working on the front line as researchers in the future” [7].

The study reported here compares the current state of awareness among JSH members for a Code of Conduct for Scientists.

Methods

Participants

A total of 439 councilors (in November 2007) and 376 junior members (in November 2008) of JSH were surveyed by written questionnaire.

Survey method

An anonymous self-administered questionnaire, including multiple choice and free answer questions, entitled “Survey on Awareness of Codes of Conduct for Scientists” was mailed to councilors from November to December 2007 and to junior members from November to December 2008. In order to protect privacy, a member roster was not obtained. Questionnaires were mailed to participants along with a letter requesting their cooperation from the administrative office of JSH. The questionnaires were returned to the administrative office and then transferred anonymously to study analysts at the Department of Epidemiology and Environmental Health, Juntendo University Faculty of Medicine.

Ethical considerations

We included a letter requesting the cooperation of the individual with clear explanations of the goal of the survey, the voluntary nature of survey participation, and ensured confidentiality of personal information. The survey of junior members was approved by the Juntendo University Faculty of Medicine for Ethics Committee.

Data collection

Our analysis focused on data from the survey sheet concerning participant characteristics and OCCS. Details of the surveyed items and a tally of the results are shown in Table 2.

Statistical analysis

In order to compare current opinions on OCCS between councilors and junior members, we first analyzed data items concerning participant characteristics and OCCS. We then divided surveyed items into three groups, namely, “necessary,” “not necessary,” and “not sure,” to analyze opinions on the JSH formulating its own code of conduct for scientists. The chi-square test was used to analyze these groups with a focus on (1) gender, (2) qualifications, (3) position, (4) affiliated institution, and (5) experience on an ethical review board for both councilors and junior members.

Statistical significance was assessed using SPSS ver. 11.0 (SPSS, Chicago, IL) and HALBAU 7 (Gendai Sugaku-sha, Kyoto, Japan). $P < 0.05$ was considered to be statistically significant.

Results

Participant background

The overall response rate of participants was 40.6% ($n = 331/815$), with 46.7% of councilors ($n = 205/439$) and 33.5% of junior members ($n = 126/376$) responding. Participant characteristics are shown in Table 1. The mean age of the participants was 56.2 ± 8.8 years for men and 53.0 ± 8.3 years for women among the councilors, and 40.1 ± 6.1 years for men and 39.2 ± 6.0 years for women among junior members. A significant difference was observed in the mean age of councilors and junior members among both males and females ($P < 0.01$).

Questionnaire results

Results for responses to items related to OCCS are listed in Table 2. Across all members, 36.0% of councilors

Table 1 Characteristics of Japanese Society for Hygiene (JSH) councilors and junior members who responded unambiguously^a to the questionnaire survey

Participant characteristics	Councilors		Junior members		P value
	n	%	n	%	
Gender					
Male	171	90.0	60	50.4	<0.01*
Female	19	10.0	58	49.6	
Qualifications					
Physician, dentist	120	67.0	56	50.0	<0.01*
Nurse, public health nurse	1	0.6	8	7.1	
Pharmacist	10	5.6	5	4.5	
Nutritionist	2	1.1	7	6.3	
Other	46	25.7	36	32.1	
Affiliated institution					
University Medical School	98	55.1	63	56.3	0.19
University, non-Medical School	50	28.1	26	23.2	
Medical Institution, non-University	4	2.2	7	6.3	
Research Institute	21	11.7	9	8.0	
Government Institution	5	2.8	7	6.3	
Position					
Professor	116	61.7	11	13.1	<0.01*
Associate professor	24	12.8	16	19.0	
Assistant professor	11	5.9	21	25.0	
Senior researcher	0	0.0	30	35.7	
Laboratory chief	1	0.5	4	4.8	
Other	31	16.5	31	36.9	
Member of an Ethical Review Board (now or in the past)					
Yes	15	11.6	12	9.9	0.81
No	114	88.4	109	90.1	

* Significant at $P < 0.05$

^a Ambiguous answers were excluded from the analysis

($n = 68$) and 59.8% of junior members ($n = 73$) did not personally know the contents of the OCCS ($p < 0.01$), while 76.3% of councilors ($n = 145$) and 61.4% of junior members ($n = 75$) felt that it was not known by others ($P < 0.05$). However, a majority reported interest in the OCCS [70.0% of councilors ($n = 133$), 68.6% of junior members ($n = 83$)] ($P < 0.05$) and a favorable attitude towards education in research ethics [69.3% of councilors ($n = 133$), 68.9% of junior members ($n = 84$)] ($P = 0.54$). We found that 24.3% of councilors ($n = 46$) and 15.7% of junior members ($n = 19$) believe that it is necessary for JSH to formulate its own code of conduct for scientists ($P < 0.01$). However, most junior members were divided between “not necessary” and “not sure” on whether JSH should formulate its own code.

Responses to JSH formulating its own code of conduct for scientists

Analyses of attitudes towards the JSH formulating its own code of conduct for scientists are shown in Tables 3 and 4. It is worth noting that a significant discrepancy

exists between the issue of JSH formulating its own code and a knowledge of the OCCS. A higher percentage of those with knowledge of OCCS responded that it was necessary for the Society to formulate its own code ($p < 0.01$).

The reasons cited by councilors for the need of a JSH code are:

- (1) research in the field of hygiene deals with people and often requires handling personal information;
- (2) epidemiological research includes researchers of various backgrounds;
- (3) the need to give JSH a sense of uniqueness.

Among junior members, the following opinions prevailed:

- (1) there is a need for guidelines that appropriately reflect the characteristics of JSH;
- (2) formulation of an independent code by JSH will influence other academic societies to councilor member awareness;
- (3) formulation of an independent code will exert an educational effect on members.

Table 2 Responses to questions on the “Code of Conduct for Scientists”

Items on the questionnaire	Answer	Councilors		Junior members		P value
		n	%	n	%	
Do you know about the existence of the “Code of Conduct for Scientists” formulated by the Science Council of Japan?	Yes	48	25.4	12	9.8	<0.01*
	Recognized title but did not know contents	73	38.6	37	30.3	
	No	68	36	73	59.8	
Where did you receive information about the “Code of Conduct for Scientists” from? (if known)	Homepage of the Japanese Society for Hygiene	12	18.5	2	13.3	0.24
	Study session at the Japanese Society for Hygiene general meeting	3	3.1	2	13.3	
	Homepage of an academic society other than the Japanese Society for Hygiene	3	4.6	0	0.0	
	Mass media	13	20.0	5	33.3	
	Internet	16	24.6	4	26.7	
	Lecture	1	1.5	1	6.7	
	Other	18	27.7	1	6.7	
Do you think that the “Code of Conduct for Scientists” is adequately known among members of the JSH?	Yes	5	2.6	3	2.5	<0.05*
	No	145	76.3	75	61.5	
	Not sure	40	21.1	44	36.1	
What do you think is the most effective way to make the “Code of Conduct for Scientists” commonly known among more members of the JSH?	The Society’s homepage	25	13.8	11	9.1	0.29
	Lectures at general meeting symposia	38	21.0	18	14.9	
	Holding a briefing session at the general meeting	12	6.6	10	8.3	
	Individual emails	27	14.9	29	24.0	
	Individual letters	25	13.8	15	12.4	
	Individual emails and letters	43	23.8	33	27.3	
	Other	11	6.1	5	4.1	
Are you interested in the “Code of Conduct for Scientists”?	Yes	133	70	83	68.6	<0.05*
	No	30	15.8	10	8.3	
	Not sure	27	14.2	28	23.1	
What do you think about conducting research ethics education through the JSH?	Approve	133	69.3	84	68.9	0.54
	Disapprove	13	6.7	5	4.1	
	Not sure	46	24.0	33	27.0	
Please identify specific methods (for those who approve)	Creating guidelines	34	25.8	14	17.5	0.08
	Lectures and workshops at Society meetings	44	33.8	40	50	
	The Society’s home page	10	7.6	11	13.8	
	Individual emails	12	9.1	5	6.3	
	Individual letters	12	9.1	4	5	
	Individual emails and letters	18	13.6	5	6.3	
	Other	2	1.5	1	1.3	
Where do you think judgments on misconduct should be made?	Board of Directors	20	10.6	6	5.0	0.17
	Ethics Committee	110	58.2	83	69.2	
	Create a new organization within the Japanese Society for Hygiene	51	27	26	21.7	
	Other	8	4.2	5	4.2	
Do you think that a member of the JSH who has been cited for misconduct should be provided with an opportunity for rebuttal?	Yes	189	98.4	115	94.3	<0.05*
	No	1	0.5	0	0.0	
	Not sure	2	1.0	7	5.7	
Is it necessary for the Society to formulate its own “Code of Conduct for Scientists”?	Necessary	46	24.3	19	15.7	<0.01*
	Not necessary	96	50.8	51	42.1	
	Not sure	47	24.9	51	42.1	

* Significant at $P < 0.05$

Table 3 Responses among councilors^a to the question of whether the JSH should formulate its own “Code of Conduct for Scientists”

Participant characteristics	Necessary		Not necessary		Not sure		<i>P</i> value
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	
Gender							
Male	42	91.3	89	92.7	38	82.6	0.16
Female	4	8.7	7	7.3	8	17.4	
Qualifications							
Physician, dentist	27	65.9	69	75.3	21	48.8	<0.05*
Nurse, Public health nurse, pharmacist, nutritionist	2	4.8	4	4.3	7	16.3	
Other	12	29.3	19	20.4	15	34.9	
Position							
Professor	26	59.1	58	61.1	31	67.4	0.24
Associate professor	3	6.8	14	14.7	7	15.2	
Lecturer	5	11.4	3	3.2	3	6.5	
Assistant professor	0	0.0	0	0.0	0	0.0	
Senior researcher, laboratory chief	1	2.3	4	4.2	1	2.2	
Other	9	20.5	16	16.8	4	8.7	
Affiliated institution							
University Medical School	26	60.5	50	56.8	22	48.9	0.10
University, non-Medical School	9	20.9	21	23.9	19	42.2	
Research Institute	8	18.6	13	14.8	4	8.9	
Government Institution	0	0.0	4	4.5	0	0.0	
Experience on an Ethical Review Board (now or in the past)							
Yes	3	10.7	10	15.8	2	5.2	0.26
No	25	89.3	53	84.2	36	94.8	
Knowledge about the code of conduct							
Knowledgeable	20	44.4	20	21.1	7	15.2	<0.01*
Recognized title but did not know contents	13	28.8	42	44.2	17	36.9	
Not knowledgeable	12	26.8	33	34.7	22	47.9	
Reasons for the necessity for the JSH to formulate its own code of conduct for scientists							
No comments	11	23.9	96	100.0	47	100.0	<0.01*
With comments	35	76.1	0	0.0	0	0.0	

* Significant at $P < 0.05$ ^a Ambiguous answers were excluded from the analysis

Discussion

In this survey, we collected responses from 46.7% of councilors and 33.4% of junior members of the JSH. This low response rate—less than half of members despite appeals through the administrative office—may be related to a low interest among JSH members in the subject matter. In particular, the relatively lower response rate from junior members in comparison to councilors may be due to a difference in standing and responsibility within the JSH. Respondents expressing interest in the OCCS included 70.0% of councilors ($n = 133$) and 68.6% of junior members ($n = 83$). It was also evident that those respondents with a greater knowledge of the OCCS more

frequently felt it necessary for the JSH to formulate its own code of conduct for scientists.

A code is valuable not only because of its existence but also for its contents. Therefore, the necessity for the JSH to have its own individual codes is dependent not only on its members having a knowledge of the OCCS but also on the content and the aim of the code itself. Similarly, the determination of whether or not the JSH should formulate its own code requires that the OCCS be commonly known. Lectures at general meeting symposia and individualized communications to all members, with no distinction made between councilors and junior members, may be effective in distributing knowledge. Publicity about the OCCS may evoke interest among councilor members for codes of

Table 4 Responses among junior members^a to the question of whether the JSH should formulate its own “Code of Conduct for Scientists”

Participant characteristics	Necessary		Not necessary		Not sure		P value
	n	%	n	%	n	%	
Gender							
Male	8	42.1	28	56.0	24	48.0	0.53
Female	11	57.9	22	44.0	26	52.0	
Qualifications							
Physician, dentist	6	33.3	28	59.5	22	46.8	0.36
Nurse, public health nurse, pharmacist, nutritionist	5	27.8	6	12.8	9	19.1	
Other	7	38.9	13	27.7	16	34.1	
Position							
Professor	1	5.3	5	10.2	5	10.6	0.93
Associate professor	3	15.8	8	16.3	5	10.6	
Lecturer	3	15.8	7	14.3	11	23.4	
Assistant professor	5	26.3	12	24.5	13	27.7	
Senior researcher, laboratory chief	1	5.3	4	8.2	1	2.1	
Other	6	31.6	13	26.5	12	25.5	
Affiliated institution							
University Medical School	8	53.3	22	45.8	33	67.3	0.07
University, non-Medical School	5	33.3	10	20.8	11	22.4	
Research Institute	2	13.4	12	25.1	2	4.2	
Government Institution	0	0.0	4	8.3	3	6.1	
Experience on an Ethical Review Board (Now or in the past)							
Yes	1	5.3	5	9.6	6	12.0	0.70
No	18	94.7	47	90.4	44	88.0	
Knowledge about the code of conduct							
Knowledgeable	23	35.9	25	17.1	11	11.3	<0.01*
Recognized title but did not know contents	20	31.3	59	40.4	30	30.9	
Not knowledgeable	21	32.8	62	42.5	56	57.8	
Reasons for the necessity for the JSH to formulate its own code of conduct for scientists							
No comments	6	31.6	51	100.0	51	100.0	<0.01*
With comments	13	68.4	0	0.0	0	0.0	

* Significant at $P < 0.05$

^a Ambiguous answers were excluded from the analysis

scientific conduct and eventually lead to a need to establish a code within the JSH.

Conclusion

We have clarified the current state of awareness of the OCCS among JSH members and the opinion of JSH members towards formulating its own Code of Conduct for Scientists. Our results provide important information that should be considered in the formulation of an individual code of conduct for scientists in the JSH.

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