

PERCEIVED DANGERS OF NUCLEAR POWER: RESULTS FROM A RECENT SOCIAL SURVEY*

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Why is the public acceptance of the nuclear power policy less than enthusiastic? This article is an exploratory investigation of the public's general perceptions and attitudes toward nuclear power, and is also intended to provide useful information for developing further approaches to gaining the public acceptance of nuclear power. The findings from the national opinion survey indicate that a large proportion of the public have little understanding of nuclear power and radioactive waste, and even worse, they hold negative perceptions about them. No doubt the preoccupation with the destructive power and the doubtfulness about the safety of nuclear power in the public mind increase the overall negative perceptions about nuclear power. Despite these negative perceptions, the public attitudes toward nuclear power are found to be ambivalent. The considerable discrepancy found in people's ambivalent reactions to nuclear power, not necessarily unique to nuclear related matters, suggests that it is one thing to support nuclear power policy, but it is another to welcome nuclear facilities into one's own neighborhood.

Korea's dependency on nuclear power for the supply of electricity began in 1978 by building its first commercial nuclear reactor in Kori, Kyongnam Province. The nuclear energy policy was established largely in response to the energy crisis in the early 1970s. It was a solution to maintaining a stable supply of energy that would support rapid economic growth in a country with poor natural resources. Currently, Korea is contingent upon nuclear power for 50 percent of its electricity annually produced. There are nine nuclear reactors in operation at four different places and two more under construction. In order to meet the continuous rise in energy consumption, the Korean government planned to build six more nuclear reactors between the years of 1989 and 2001, and to maintain the proportion of electricity produced by nuclear power at the current level. Thus, nuclear power occupies an important position in Korea's energy policy (Ministry of Energy and Resources and KEPCO 1990).

*The survey was conducted as part of a comprehensive research project entitled "Toward Selecting the Sites for Radioactive Waste Disposal and Deriving Regional Development Strategies". We thank Young-Lim Hong and Chang-Han Kim for their assistance throughout the completion of the research project.

By contrast, the public acceptance of nuclear policy does not seem very enthusiastic. Many people seem to be in doubt of the safety of nuclear power plants. It is quite likely the accidents at the Three Mile Island and the Chernobyl power plants have increased the feelings of insecurity about nuclear power. The public nervousness about the issue has most notably been expressed through difficulties in finding new sites for nuclear facilities. The government's attempts to locate the site for radioactive waste disposal has been twice frustrated by riots in the areas of potential sites. People in areas that have been designated as potential sites for future nuclear power plant construction have organized to protest in case the government tries to undertake construction. The residents in areas where new nuclear reactors are currently under construction have been engaged in incessant protests. Organizations advocating anti-nuclear movements are growing in numbers. People against nuclear energy policy generally express their feeling of insecurity about the safety of nuclear facilities and about the possible leakage of radioactive materials. The residents in the areas of and adjacent to potential sites fear regional isolation and the resultant economic disadvantages as a result of the location of nuclear facilities. Some people also criticize the secretive and undemocratic procedures by which the decisions have been made and carried out.

However, besides the residents directly involved in the location of the facilities and the members of anti-nuclear organizations, most other people are generally silent on the issue. This paper explores the public's overall perceptions of nuclear power in general and radioactive waste disposal in particular based upon a social survey recently conducted by the authors.

THE DATA AND THE SAMPLE

The Data

The data used in this study came from a national opinion survey on nuclear energy which was conducted in July 1991 by the Population and Development Studies Center at Seoul National University as part of a comprehensive research project concerning the issue of selecting a radioactive waste disposal site and deriving people's consensus on the matter and on nuclear power policies in general.

The Sample

The sample was drawn from all adult males and females aged 20 or over throughout the country except for Cheju Province, using the multi-stage area probability sampling method based on population projections of the year 1990 (National Bureau of Statistics 1989; Korea Institute for Population and Health 1989). The total target number was 1,530, resulting in the analysis of a sample

of 1,528 (two cases were discarded because of incomplete information).

Males and females made up almost a half each of the sample, 50.7 and 49.3 percent, respectively. Age was distributed as follows: 28.3 percent of the respondents were in their 20s, 32.7 percent in their 30s, 19.6 percent in their 40s, and 19.4 percent in their 50s or above. Their educational distribution was: 33.1 percent had received less than high school education, 40.8 percent had completed high school, and 26.2 percent had received or were currently receiving college education. Occupations of the respondents were classified as follows: professional/managerial workers (9.1%), clerical workers (10.4%), working proprietors (10.7%), sales and service workers (10.0%), skilled/unskilled laborers (8.6%), and farmers/fishermen (15.4%). The rest of the sample consisted of housewives (27.4%), and students and others (8.2%).

MAJOR FINDINGS

General Images of Nuclear Power

In the beginning part of the questionnaire, there was an open-ended question asking the respondents to report the first thing that occurs to them when they hear the word "atomic power". Even though the result of such free association may not accurately represent the respondent's overall attitude toward nuclear power and its usage, it can be used as a good indicator of the dominant images of nuclear power in the public mind. The responses were later classified under the categories of positive, negative, neutral, and ambivalent images, and other or irrelevant. Positive images of nuclear power include the associations of nuclear power with words related to science and technology, economic development, practicality, utility, source of energy, and positive feelings. Responses classified as negative images include nuclear weapons and war, destruction, danger, radioactive pollution, health hazard, fetal deformation, death, and emotional expressions of horror and fear. Responses involving both positive and negative images constitute the ambivalent image category. Responses such as nuclear, atom, radioactivity, uranium, natural resource, and nuclear reactor were classified as neutral.

Over half of the respondents made negative associations. Associations with positive images were made only by approximately 10 percent of the respondents, and 16.5 percent of the respondents had neutral images of nuclear power. A small proportion of the respondents (2.2%) had ambivalent images (Table 1). The inclination for negative associations was stronger among males than females, among managerial workers, and the residents of Honam and Youngnam area. Respondents in their 20s showed the strongest tendency to make neutral associations while the tendency to make positive associations was

the strongest among those in their 30s. A noticeable proportion of respondents made no associations about nuclear power. Even though there might have been a tendency among the respondents to find open-ended questions more burdensome to respond to, considering the low rate of no responses on other questionnaire items, at least a part of these people either lack any understanding of nuclear power or are indifferent to the subject.

The results of the free association suggested that the positive images of nuclear power are usually related to its usefulness, while the negative images are related to its destructive force and dangers. We saw that at the core of the positive perception of nuclear power are images of the usefulness and the safety of its use. In other words, the perceptions of safety and usefulness were the two most important determinants of the positive general perception about nuclear power. Although they work in opposite directions, it is likely that people have perceptions about both aspects of nuclear power. The preoccupation with its destructive power and the doubtfulness about its safety will no doubt increase the overall negative perception about nuclear power, while the appreciation of its usefulness will increase the overall positive perception.

TABLE 1. IMAGES ASSOCIATED WITH NUCLEAR POWER

(N = 1,528)

Response	%
Positive images	9.9
Negative images	52.5
Neutral images	16.5
Ambivalent images	2.2
Other/irrelevant	8.3
No response	10.5
Total	100.0

Notes : Category descriptions are as follows;

Positive images include science, Einstein, space technology, radioactive therapy, development, energy, electricity, alternative energy, non-pollutant, the simple structure of nuclear power plants, practicality, necessity, utility, pride, and good.

Negative images include atomic bomb, nuclear weapons, nuclear war, Hiroshima, radioactive fallout, nuclear war casualties, Chernobyl, accidents at nuclear power plants, radioactive leaks, radioactive wastes, Anmyondo, explosion, radioactive pollution, ecological transformation, health hazard, nuclear disease, fetal/animal deformation, death, damage, destruction, doom, danger, safety precaution, fear, insecurity, hatred, bad, and unhappiness.

Neutral images include nuclear, atom, radioactivity, uranium, natural resource, and nuclear reactor.

Ambivalent images include combinations of a positive and a negative image.

Other/irrelevant images include oil, coal, acid rain, typhoon, automation, companion, synthetic light, lack of public communications, and capital.

Perceptions of the Safety of Nuclear Power Plants

Nuclear power plants are perceived as unsafe by 41.5 percent of the respondents. Only 15.6 percent think they are safe, and 26.7 percent reply that their positions are in-between. Thus, the subjective evaluations of the safety of the nuclear power plants are negative in general. A noticeable portion of the respondents (16.2%) indicated that they could not make a judgment on the issue (Table 2). For the majority of the respondents who perceive nuclear power plants as unsafe, the reason for their belief lies in their mistrust of the safety management rather than the unsafety of the operating skills or the architectural structure of the facility itself. A significant number of other respondents, however, replied that they could not identify any concrete reasons for their insecurities (Table 3). The proportion of respondents reporting their doubts in safety management is higher among males, lower age groups, people with more education, professionals and managerialial, and students. Females, people with less education, sales/service employees, and housewives were more likely than other groups to report unsubstantiated insecurity.

TABLE 2. EVALUATIONS OF THE SAFETY OF NUCLEAR POWER PLANTS

(N = 1,527)

Response	%
Very safe	0.5
Somewhat safe	15.1
In-between	26.7
Somewhat unsafe	36.5
Very unsafe	5.0
Don't know	16.2
Total	100.0

TABLE 3. REASONS FOR THE PERCEPTION OF NUCLEAR POWER PLANTS AS UNSAFE

(N=630)

Response	%
Safety management is untrustworthy	58.6
No particular reasons	22.1
Operating skills are untrustworthy	8.4
The structures of the plants are unsafe	8.3
Plant maintenance is unreliable/Other reasons	2.7
Total	100.0

In the questionnaire, seven statements concerning the safety of the nuclear power plants were given, and the respondents were asked to indicate whether they agreed to, disagreed to, or could not make a judgment about each statement. The responses suggested that more people are doubtful about the safety of nuclear power plants than are trustful, which confirms the finding reported earlier. Fifty-five percent of the respondents reported their belief that residents living near the nuclear power plants have a greater chance of getting cancer; and nearly a half of the respondents thought that nuclear power plants could explode. Since these descriptions of the possible dangers of nuclear power plants are gravely discrepant with the claims made by operators of the nuclear power plants, the response tendency suggested that many people either have not gotten the correct information or do not trust such information. The high proportion of respondents deferring judgments about each statement is a strong indication of general ignorance or indifference about the issue (Table 4).

TABLE 4. EVALUATIONS ABOUT THE STATEMENTS CONCERNING THE SAFETY OF NUCLEAR POWER PLANTS

Unit : %(N=1,528)

Statement	Response				Total
	Agree	Disagree	Don't Know	No Response	
The design and structure of nuclear power plants are reliable	29.5	34.6	35.8	0.1	100.0
Nuclear power plants in developed countries are operating safely	40.7	26.4	32.7	0.1	100.0
Nuclear power plants are properly managed for its safety	27.3	36.8	35.6	0.3	100.0
A hazardous level of radioactive material leaks from nuclear power plants	40.2	28.9	30.8	0.2	100.0
The chances of getting cancer are higher among the residents nearby nuclear power plants	55.2	17.0	27.4	0.4	100.0
The seawater by the nuclear power plants is polluted with radioactive materials	41.8	24.9	33.1	0.3	100.0
Nuclear power plants can explode like an atomic bomb	48.6	27.0	24.0	0.4	100.0

Another important finding is that there were socioeconomic differences in response patterns to the first three statements which differ from those responses to the remaining four statements (see Appendix). As one may notice, while the first three statements are plain technical statements about the safety of the structure, technology, and management skills, the other four are descriptions of possible environmental hazards surrounding nuclear power plants laden with fearful images. While young, educated respondents were more likely to express their doubts on the first three statements, their tendencies to have horrible images of nuclear power plants were relatively lower than other groups. On the contrary, older and less educated respondents were more likely to have fears of environmental pollution, while they tended to be less aware of the technical issues related to safety. Females and housewives, more so than males, also had a stronger tendency to express their insecurities in response to the last four statements. The differences in the response patterns strongly suggested the presence of two different modes of perceptions about the safety of nuclear power plants, one being rational concerns about technology and management, and the other being emotionally laden perception of the worst possible dangers associated with nuclear power plants. This finding corresponds to the result reported above. If we could make an assumption that age and the level of education are associated with the knowledge and understanding of nuclear power, we can make an inference from that finding that while greater knowledge increases safety concerns, ignorance only breeds fear.

Perceptions of Radioactive Waste

The attitudes toward nuclear power are affected not only by the perceptions of nuclear power itself, but also by the perceptions of radioactive waste which is a by-product of nuclear power generation. According to the survey results, the level of perceptions of risks associated with radioactive waste in the public mind is also very high.

The insecurities of radioactive waste people perceive is in part due to the unfamiliarity which leads to dread as discussed in the previous section regarding nuclear power generation. A result worth noting is that four out of ten respondents (43.1%) have little or no knowledge about radioactive waste to evaluate the subjects concerning radioactive waste (Table 5). In fact, most of these people have no idea about how the radioactive waste is being managed in Korea, or about how it should be managed for safe disposal. Socioeconomic and demographic differences in the level of knowledge of radioactive waste are quite evident, with male, young, highly educated, rich, urban respondents generally having more knowledge than their counterparts. The educational difference in the level of concern and knowledge is certainly significant. Only 20 percent of the respondents with no education have knowledge of radioactive waste

TABLE 5. LEVEL OF KNOWLEDGE ABOUT RADIOACTIVE WASTE BY EDUCATION

Unit : %(N=1,528)

Education	Knowledge Level				Total
	Know very well	Know a little	Know very little	Don't know at all	
No schooling	0.0	20.5	22.7	56.8	100.0
Primary school	2.5	25.9	35.3	36.3	100.0
Middle school	3.1	41.3	37.1	18.5	100.0
High school	2.4	60.1	32.1	5.4	100.0
Junior college	1.4	67.4	28.4	2.8	100.0
College or higher	5.0	73.0	20.5	1.5	100.0
Total	2.8	54.1	30.8	12.3	100.0

TABLE 6. THE MOST SERIOUS FACTOR CONTRIBUTING TO ENVIRONMENTAL DESTRUCTION

(N=1,526)

Source	%
Industrial waste	45.4
Household garbage	25.0
Radioactive waste	15.7
Smog and noise	8.5
Agricultural chemicals	5.0
Others	0.5
Total	100.0

while 78 percent of those with higher than college education have some, if not profound, knowledge.

Risk perceptions on radioactive waste is associated with people's concern about the contamination of the environment by radioactive materials. To the question of the most serious factor causing the destruction of the environment on our sample survey, the majority (86.0%) of the respondents perceived "wastes" or "garbage" including industrial waste, household garbage, and radioactive waste as the most serious factor contributing to the destruction of our environment (Table 6). Radioactive waste was perceived to be the third most serious factor (15.6%), following industrial waste (45.3%) and household garbage (9%).

The relatively high level of risk perception, sometimes expressed as fear, of radioactive waste as a serious factor of the environmental destruction is sup-

ported by other results. A question had been asked concerning the method for radioactive waste disposal. As one would expect, the largest proportion of the respondents (31.5%) had the opinion that radioactive waste should be disposed of on an isolated island far away from the land or the community we live in. There were also a similar opinion to dispose of radioactive waste in caves at the bottom of the sea (9.9%) or in remote mountains (3.3%) (Table 7).

TABLE 7. METHOD FAVORED FOR RADIOACTIVE WASTE DISPOSAL

(N=1,528)	
	%
In an isolated island	31.5
Within the nuclear power plant	19.3
In an underground concrete structure	16.4
In a cave in the bottom of sea	9.9
In a cave in the remote mountain	3.3
Others	1.8
No idea	17.9
Total	100.0

Respondents were also asked about the cause of the riot by the Anmyondo residents in 1990.¹ About 35 percent of those who had some knowledge about the incident replied that it was mainly because Anmyondo residents were concerned about the anticipated destruction and contamination of their own residential environment by the location of radioactive waste disposal facilities near them (Table 8). It is also worth noting that a little bit higher proportion of the respondents (36.1%) blamed government policy for neglecting the opinions of the residents concerned in the process of selecting the site; and 10.4 percent pointed out the prevailing mood of distrust and the general dissatisfaction with the government in our society.

Asked about the local facilities the respondents would oppose the most if it were to be built near their community, the proportion of the respondents opposed a nuclear power plant or radioactive waste disposal facility was quite substantial (54.7%) (Table 9). Even among those who had a positive image of nuclear power, four out of ten (42.8%) were against building a nuclear power plant or radioactive waste disposal facility near his/her own community.

¹The government's plan to locate the research facilities for radioactive waste disposal in Anmyondo, west coast of Chungnam Province, was frustrated by the protests of the Anmyondo residents and members of the anti-nuclear organizations in October, 1990.

TABLE 8. MAJOR REASON OF THE RIOT BY THE ANMYONDO RESIDENTS

(N=1,076)

Reason	%
Because the residents' opinion was ignored in the policy making procedures	36.1
Because the residents worried about environmental contamination and destruction by radioactive waste	35.1
Because of the lack in the residents' understanding of radioactive waste	13.7
Because of the distrust in or dissatisfaction with the government	10.4
Because of the widespread radical and violent attitudes of people in our society	1.9
Others	0.7
Don't know	2.1
Total	100.0

TABLE 9. LOCAL FACILITIES CONTRIBUTING THE MOST TO THE ENVIRONMENTAL CONTAMINATION BY IMAGE OF "ATOMIC POWER"

Image of Atomic Power	Nuclear Related Facilities	Other Local Facilities	Total
	%	%	%(N)
Positive	42.8	57.2	100.0 (152)
Negative	60.4	39.6	100.0 (800)
Neutral	55.6	44.4	100.0 (252)
Ambivalent	70.6	29.4	100.0 (34)
Others	27.0	73.0	100.0 (126)
Total	54.7	45.3	100.0 (1,364)

On the question of attitude toward their son or daughter entering a nuclear related occupation (local nuclear power plant, nuclear research center, radioactive waste facility, etc.), 30.4 percent of the respondents, almost three times as many as those who supported it, were against their children's employment in nuclear related jobs.

Public Acceptance of Nuclear Power

In light of what we found from the survey, it is apparent that people's negative perceptions of nuclear power can be attributed to their awareness of dangers and risks associated with nuclear power generation and radioactive waste, and sometimes the unfamiliarity with nuclear related issues leads to unfounded risk perceptions and fear.

Despite these negative perceptions, our opinion survey indicates the ambivalent attitudes of people toward nuclear power. A question has been asked concerning the development of nuclear power at the national level as well as concerning a nuclear power plant or radioactive waste facility being built near one's own community. Compared to the opposition to the construction of nuclear facilities in one's own community, the drop in the level of opposition to nuclear power at the national level is surprising. On the question of whether the construction of nuclear power plant should be continued, more than 80 percent of the respondents hold the opinion that an additional construction of nuclear power plants should be inevitably carried out, but with caution. Even among those refusing the location of nuclear facilities near their own community or opposing their son's or daughter's working in nuclear related jobs, quite a large proportion (81% and 68%, respectively) supported the additional construction of nuclear power plants (Table 10).

The considerable discrepancy found in people's ambivalent attitudes toward nuclear power suggested that while it is one thing to support the development of nuclear power, it is quite another to welcome a nuclear facility into one's own neighborhood. This apparent ambivalence is not unique to nuclear related matters. Many major projects of public interest confront vigorous local oppo-

TABLE 10. OPINIONS ON ADDITIONAL CONSTRUCTION OF NUCLEAR POWER PLANTS

Opinion	Unit : %	
	(1) ^{a)}	(2) ^{b)}
Promote actively	7.1	6.0
Promote carefully	73.6	61.6
Stop the construction	14.3	24.8
Abolish all the existing facilities	5.0	7.6
Total (N)	100.0 (798)	100.0 (419)

^{a)} Respondents opposing nuclear facilities near their communities

^{b)} Respondents opposing children's employment in nuclear related occupations

sition. This kind of ambivalent reaction of people, often termed the "OK, but not in my backyard", or the so-called *nimby* syndrome, reinforces the concerns about risks. The cause of such a reaction as the *nimby* position seems clear. People think that the perceived disadvantages of living near a nuclear plant or radioactive waste disposal facility fall on just a few people including themselves while the benefits are diffused to a much larger population.

Given the empirical evidence that many people negatively perceive nuclear power, it turned out to be beyond our expectation that so many people supported the continued development of nuclear energy for the inevitable necessity at the present time. However, considering the fact that most of the people favoring nuclear power answered "nuclear power development should be continued, but with caution," we could see that most of these pronuclear respondents were more likely to be passive supporters rather than strong advocates of nuclear power. It also suggested that many people could withhold their negative attitudes for the sake of national interest so long as it does not incur direct harm to one's own interests. The opinions on the method favored for electricity generation also support this somewhat ambiguous attitude people have toward the public good. According to the survey findings, the largest proportion of respondents (36.0%) were in favor of new "alternative" methods of electricity generation such as the sun, wind, etc. which are the most unrealistic methods at the present time. About one-fourth (23.8%) favored nuclear power (Table 11).

TABLE 11. METHOD FAVORED FOR ELECTRICITY GENERATION

(N=1,526)	
Response	%
Other methods(sun, wind, etc.)	36.0
Hydroelectric power	25.8
Nuclear power	23.8
Coal-burning	4.5
Don't know	9.9
Total	100.0

CONCLUDING REMARKS

The most significant finding from the survey probably was that a large proportion of the public have little understanding of nuclear power and radioactive waste and this lack of understanding sometimes leads to perceptions of risks and fear. This finding has serious implications for the effective execution of the program concerning nuclear power, since the lack of understanding, which can also lead to indifference, could result in fear and other irrational reactions that are difficult to deal with.

First, what people worry over the most about nuclear power is the possible harmful consequences from the use of nuclear power. Therefore, the most important task is to remove people's uncertain fear about nuclear power and the safety of nuclear facilities.

Second, it is important to secure public acceptance. Most people, by and large, comprehend the necessity of nuclear power but they have negative perceptions and attitudes toward nuclear related affairs, the outcome being the *nimby* position. Most people are very skeptical about the safety of nuclear power and radioactive waste disposal and some people have unsubstantiated fear. The misconceptions of nuclear power and radioactive waste disposal appear to result from the lack of personal concern and ineffective public relations. People do not seem to have much exact information about nuclear power, but they certainly have indescribable fears about it. Therefore, in order to persuade people and secure public acceptance, we suggest that more objective information on nuclear technology and policy be provided through the appropriate means such as the mass media which play an important and powerful role in forming people's attitudes toward public affairs.

Third, of utmost necessity is to enhance people's trust toward the government on the matter of nuclear power and waste disposal. Overall, the level of people's dissatisfaction and distrust about this is quite high. The residents in the areas where nuclear power plants are already in operation think that the government's position on nuclear related policies has been inconsistent in the past. In order to derive consensus from the people, it is very important to let people know the facts as they are and to keep promises.

In this way, the present national dilemma associated with nuclear power can find a way to be resolved relevantly without the government having to carry out its proposals by force. We hope that the findings from this survey will provide useful information for developing further approaches to gaining public acceptance of nuclear power.

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APPENDIX:
EVALUATIONS ABOUT THE STATEMENTS CONCERNING
THE SAFETY OF NUCLEAR POWER PLANTS
BY SEX, AGE, EDUCATION AND THE RESIDENTIAL AREA

TABLE A-1. "The Design and Structure of Nuclear Power Plants Are Reliable"

		Agree	Disagree	Don't Know	No Response	Total
	(N)	%	%	%	%	%
TOTAL	(1528)	29.5	34.6	35.8	.1	100.0
SEX						
Male	(775)	30.5	37.3	32.1	.1	100.0
Female	(753)	28.6	31.7	39.6	.1	100.0
AGE						
20s	(433)	23.8	38.8	37.4		100.0
30s	(499)	30.1	35.7	34.1	.2	100.0
40s	(299)	33.4	31.1	35.1	.3	100.0
50s	(213)	30.5	28.6	40.8		100.0
60s & Over	(84)	39.3	33.3	27.4		100.0
EDUCATION						
No Schooling	(44)	43.2	15.9	40.9		100.0
Elementary	(201)	31.8	33.8	34.3		100.0
Middle School	(259)	28.2	32.0	39.8		100.0
High School	(624)	29.0	33.7	37.0	.3	100.0
Jr. College	(141)	24.1	39.7	36.2		100.0
College or Higher	(259)	30.9	40.2	29.0		100.0
RESIDENTIAL AREA						
Seoul	(382)	27.0	32.5	40.3	.3	100.0
Large City	(354)	30.2	35.3	34.5		100.0
Other City	(390)	24.6	37.7	37.4	.3	100.0
Town/Rural	(402)	36.1	32.8	31.1		100.0

TABLE A-2. "Nuclear Power Plants in Developed Countries Are Operating Safely"

		Agree	Disagree	Don't Know	No Response	Total
	(N)	%	%	%	%	%
TOTAL	(1528)	40.7	26.4	32.7	.2	100.0
SEX						
Male	(775)	41.7	30.2	28.0	.1	100.0
Female	(753)	39.7	22.6	37.5	.3	100.0
AGE			26.6			
20s	(433)	36.7	28.5	36.7		100.0
30s	(499)	40.1	26.8	31.5		100.0
40s	(299)	43.5	21.6	28.8	1.0	100.0
50s	(213)	44.1	25.0	34.3		100.0
60s & Over	(84)	46.4		28.6		100.0
EDUCATION			13.6			
No Schooling	(44)	40.9	22.9	45.5		100.0
Elementary	(201)	36.3	23.2	40.8		100.0
Middle School	(259)	44.4	26.8	31.7	.8	100.0
High School	(624)	40.2	31.2	32.9	.2	100.0
Jr. College	(141)	39.0	31.3	29.8		100.0
College or higher	(259)	42.5		26.3		100.0
RESIDENTIAL AREA			24.3			
Seoul	(382)	42.1	26.8	33.0	.5	100.0
Large City	(354)	42.4	30.0	30.8		100.0
Other City	(390)	37.9	24.6	31.8	.3	100.0
Town/Rural	(402)	40.5		34.8		100.0

TABLE A-3. "Nuclear Power Plants Are Properly Managed For Its Safety"

		Agree	Disagree	Don't Know	No Response	Total
	(N)	%	%	%	%	%
TOTAL	(1528)	27.3	36.8	35.6	.3	100.0
SEX						
Male	(775)	26.6	39.2	34.1	.1	100.0
Female	(753)	28.0	34.4	37.2	.4	100.0
AGE						
20s	(433)	19.2	40.2	40.6		100.0
30s	(499)	26.1	39.3	34.3	.4	100.0
40s	(299)	30.8	34.4	34.1	.7	100.0
50s	(213)	37.1	29.6	33.3		100.0
60s & Over	(84)	39.3	32.1	28.6		100.0
EDUCATION						
No Schooling	(44)	34.1	34.1	31.8		100.0
Elementary	(201)	37.8	30.8	31.3		100.0
Middle School	(259)	30.5	37.8	30.9	.8	100.0
High School	(624)	25.8	36.1	37.8	.3	100.0
Jr. College	(141)	21.3	37.6	41.1		100.0
College or higher	(259)	21.6	42.5	35.9		100.0
RESIDENTIAL AREA						
Seoul	(382)	25.9	37.4	35.9	.8	100.0
Large City	(354)	30.8	30.5	38.7		100.0
Other City	(390)	20.0	41.3	38.5	.3	100.0
Town/Rural	(402)	32.6	37.6	29.9		100.0

TABLE A-4. "A Hazardous Level of Radioactive Material Leaks From Nuclear Power Plants"

		Agree	Disagree	Don't Know	No Response	Total
	(N)	%	%	%	%	%
TOTAL	(1528)	40.2	28.9	30.8	.2	100.0
SEX						
Male	(775)	33.9	36.4	29.4	.3	100.0
Female	(753)	46.6	21.1	32.1	.1	100.0
AGE						
20s	(433)	42.5	28.4	29.1		100.0
30s	(499)	38.7	31.3	29.9	.2	100.0
40s	(299)	38.5	30.4	30.4	.7	100.0
50s	(213)	39.9	23.0	37.1		100.0
60s & Over	(84)	44.0	26.2	29.8		100.0
EDUCATION						
No Schooling	(44)	43.2	15.9	40.9		100.0
Elementary	(201)	46.8	20.9	31.8	.5	100.0
Middle School	(259)	39.4	25.1	35.1	.4	100.0
High School	(624)	40.1	27.2	32.5	.2	100.0
Jr. College	(141)	39.7	39.7	20.6		100.0
College or Higher	(259)	35.9	39.0	25.1		100.0
RESIDENTIAL AREA						
Seoul	(382)	38.0	30.1	31.4	.5	100.0
Large City	(354)	38.4	33.6	28.0		100.0
Other City	(390)	41.5	24.6	33.8		100.0
Town/Rural	(402)	42.5	27.6	29.6	.2	100.0

TABLE A-5. "The Chances of Getting Cancer Are Higher Among the Residents Nearby Nuclear Power Plants"

		Agree	Disagree	Don't Know	No Response	Total
	(N)	%	%	%	%	%
TOTAL	(1528)	55.2	17.0	27.4	.4	100.0
SEX						
Male	(775)	52.8	18.2	28.6	.4	100.0
Female	(753)	57.8	15.8	26.0	.4	100.0
AGE						
20s	(433)	57.5	13.9	28.2	.5	100.0
30s	(499)	55.3	20.0	24.6		100.0
40s	(299)	52.5	20.4	25.8	1.3	100.0
50s	(213)	54.0	12.2	33.8		100.0
60s & Over	(84)	56.0	15.5	28.6		100.0
EDUCATION						
No Schooling	(44)	45.5	15.9	38.6		100.0
Elementary	(201)	59.2	13.4	26.9	.5	100.0
Middle School	(259)	52.5	16.2	30.5	.8	100.0
High School	(624)	54.6	16.8	28.2	.3	100.0
Jr. College	(141)	58.2	14.9	26.2	.7	100.0
College or Higher	(259)	56.4	22.4	21.2		100.0
RESIDENTIAL AREA						
Seoul	(382)	55.5	19.1	24.9	.5	100.0
Large City	(354)	54.8	20.3	24.9		100.0
Other City	(390)	57.7	11.5	30.3	.5	100.0
Town/Rural	(402)	53.0	17.4	29.1	.5	100.0

TABLE A-6. "The Seawater by the Nuclear Power Plants Is Polluted with Radioactive Materials"

		Agree	Disagree	Don't Know	No Response	Total
	(N)	%	%	%	%	%
TOTAL	(1528)	41.8	24.9	33.1	.3	100.0
SEX						
Male	(775)	38.5	28.6	32.5	.4	100.0
Female	(753)	45.2	21.0	33.7	.1	100.0
AGE						
20s	(433)	42.7	23.3	33.7	.2	100.0
30s	(499)	36.3	27.7	36.1		100.0
40s	(299)	45.2	24.7	29.1	1.0	100.0
50s	(213)	46.5	22.1	31.5		100.0
60s & Over	(84)	45.2	23.8	31.0		100.0
EDUCATION						
No Schooling	(44)	56.8	11.4	31.8		100.0
Elementary	(201)	51.7	18.9	29.4		100.0
Middle School	(259)	43.6	22.8	33.2	.4	100.0
High School	(624)	39.7	24.2	35.6	.5	100.0
Jr. College	(141)	39.0	29.8	31.2		100.0
College or Higher	(259)	35.9	32.8	31.3		100.0
RESIDENTIAL AREA						
Seoul	(382)	36.6	30.4	32.5	.5	100.0
Large City	(354)	44.6	22.9	32.5		100.0
Other City	(390)	43.6	24.1	32.1	.3	100.0
Town/Rural	(402)	42.3	22.1	35.3	.2	100.0

TABLE A-7. "Nuclear Power Plants Can Explode Like an Atomic Bomb"

		Agree	Disagree	Don't Know	No Response	Total
	(N)	%	%	%	%	%
TOTAL	(1528)	48.6	27.0	24.0	.4	100.0
SEX						
Male	(775)	47.1	31.6	20.9	.4	100.0
Female	(753)	50.1	22.3	27.2	.4	100.0
AGE						
20s	(433)	49.9	26.6	23.3	.2	100.0
30s	(499)	46.3	29.9	23.6	.2	100.0
40s	(299)	49.2	25.4	24.7	.7	100.0
50s	(213)	48.4	23.5	27.2	.8	100.0
60s & Over	(84)	53.6	27.4	19.0		100.0
EDUCATION						
No Schooling	(44)	50.0	15.9	34.1		100.0
Elementary	(201)	47.3	22.9	29.4	.5	100.0
Middle School	(259)	53.7	23.2	22.8	.4	100.0
High School	(624)	51.1	26.1	22.3	.5	100.0
Jr. College	(141)	44.0	30.5	25.5		100.0
College or Higher	(259)	40.5	36.3	22.8	.4	100.0
RESIDENTIAL AREA						
Seoul	(382)	42.9	32.2	24.1	.8	100.0
Large City	(354)	51.4	29.1	19.5		100.0
Other City	(390)	50.0	23.6	25.9	.5	100.0
Town/Rural	(402)	50.0	23.6	26.1	.2	100.0