

## Evaluation report (draft): Socio-Psychology Research Group

### 1. Objectives

Research task: development of socio-psychological equipment and technology to enhance safety

A method for preventing errors and violations that makes use of the knowledge and theories of socio-psychology is known as “equipment of socio-psychology.” In this study, we will focus on organizational violations of decision-making and will try to establish a System for Certifying Corporate Decision-Making Mechanisms that evaluates and certifies whether or not an organization’s decision-making mechanism places importance on safety. We will also aim at establishing a Program for Correcting Corporate Decision-Making Mechanisms (a comprehensive program including education and training) in the event that, within a decision-making mechanism, a structure to prevent violations is not sufficiently in place. Moreover, as basic knowledge for formulating these systems and programs, the factors that lead to decision-making violations will be identified.

- (1) Establish a System for Certifying Corporate Decision-Making Mechanisms
- (2) Establish a Program for Correcting Corporate Decision-Making Mechanisms
- (3) Clarify the particular factors that motivate decision-making violations
- (4) Verify the effects of introducing certification systems and correction programs

### 2. Members

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### 3. Target achievements

- Concrete examples of science and technology for society  
System for Certifying Corporate Decision-Making Mechanisms  
Program for Correcting Corporate Decision-Making Mechanisms
- Basic knowledge of science and technology for society  
Socio-psychological factors that define safety

### 4. Status and self-evaluation

#### 4-1. Status of research

Our research was implemented in stages, as follows.

- (1) Through study meetings with risk researchers, inspections of risk-related facilities, and interview surveys of people working in risk-related industries, it became clear that one of the major causes of the large-scale accidents that have occurred in nuclear power, chemical, transportation, food, and other industries was “organizational violations.” (This finding was published in books, papers, and other medium.) [FY2001]
- (2) Based on intra-group discussions and study meetings with external researchers, we found it reasonable to anticipate the following factors as causes of such organizational violations:
  - a. Factors related to decision-making mechanisms (method of holding conferences, method of adopting resolutions, practice of circulating a draft or an “internal memo” prior to decision-making, etc.)
  - b. Organizational factors that affect decision-making (organizational characteristics, organizational climate, etc.)
  - c. Factors related to individuals within the organization (personality characteristics, sense of values, occupational pride, etc.)

To see if these factors actually contribute to organizational violations, we attempted to verify their roles through numerical simulations, social surveys, psychological experiments, and other means. Although not all the investigations have been completed, our status to date is as follows.

- a. As a result of conducting numerical simulations of decision-making mechanisms, it became clear that the decision-making procedures customarily used in conferences leave little or no room for minority opinions to be included. Based on these findings, we propose the use of Computer-Mediated Communication (CMC) and other techniques and emphasize the importance of establishing proper conference procedures.
- b. As a result of conducting social surveys on organizational factors, we identified factors contributing to organizational violations (organizational practice/custom and climate). We therefore propose that improving these factors to establish appropriate conditions is important to prevent organizational violations.
- c. As a result of conducting social surveys on personal factors, we identified personal factors associated with organizational violations. We therefore propose that assessing these factors through educational and training programs and providing corrective education will contribute to preventing organizational violations. Furthermore, we concurrently are developing an Implicit Association Test (IAT), which is a new method for assessing an individual's psychological characteristics. If this test can be put to practical use, it will become possible to measure personal characteristics even at the unconscious level. This test is believed to be useful to identify individuals who commit violations and to establish educational programs.

We aim to publish these research findings in the form of academic society presentations and as a paper to be featured in a collection of papers on science and technology for society. [FY2003]

- (3) If an organizational violation occurs, we feel that one of the means to prevent it from inducing major accidents may be the strengthening of a whistle-blowing system. We have therefore conducted research on the psychological aspects of such a system. Even if a member of an organization feels that whistle-blowing is a socially rightful act, there is a possibility that charges may not be made by that member, depending on an organization's characteristics. The reasons for such a lack of action are explicit restraint/deterrence (e.g., one being ordered not to tell under any circumstances, or one being threatened with unemployment if one tells, etc.) and implicit restraint/deterrence (e.g., a prevailing atmosphere within the company that does not allow employees to criticize the company). Needless to say, these organizational characteristics are prone to induce violations of corporate decision-making. Therefore, the Socio-Psychology Research Group investigated an organizational climate that does not restrict/deter whistle-blowing activities. Last

fiscal year, we conducted a social survey and presented the findings in a collection of papers on science and technology for society. [FY2003 to the present]

- (4) These research results identify the socio-psychological factors that lead to organizational violations, and, at the same time, are being summarized into a proposal on measures to prevent organizational violations. To establish these findings as a technology that will be useful to solving actual social problems, we need to present the findings in such a way that the government and corporations can apply them with ease. Therefore, based on the conditions necessary to prevent violations, which were identified through our research, we are currently trying to construct a System for Certifying Corporate Decision-Making Mechanisms that assesses the soundness of the decision-making by the administration and by corporations (whether the entities are maintaining conditions that prevent organizational violations). We are also attempting to sort out and systematize a Program for Enhancing the Soundness of Corporate Decision-Making in case an entity's decision-making mechanism is unsound, or in case future efforts are to be made to establish a solid decision-making mechanism. We are currently at a stage in which the components of the certification system and the soundness-enhancement program are gradually becoming clear. Although an exhaustive and comprehensive system has not yet been established, we feel that, by continuing our research, we can create systems and programs that are suitable for practical use. When complete, we plan to conduct thorough verifications of the effects of introducing the certification system and soundness-enhancement program. [After FY2003]

#### **4-2. Evaluation of research**

The conventional methods for preventing organizational accidents mainly rely on engineering techniques (the development of operational systems that are unlikely to induce errors or the establishment of highly safe operational procedures) and legal actions (the strengthening of regulations). However, organizational accidents that have occurred in recent years (such as those at JCO and Snow Brand Milk Products) occurred because the companies had ignored these methods. Therefore, new technologies for preventing violations, other than these engineering and legal techniques, are called for.

Generally speaking, it is impossible to reduce personal violations to zero. This is because, in the case of personal decision-making, many decisions are automatic in nature, making it difficult to intervene in the mental processes that prompt them. On the other hand, the process of making decisions within organizations is clearly indicated. Thus, it is far easier to intervene in the corporate decision-making process than in the

personal decision-making process. Since many people are involved in the process of making detrimental corporate decisions, one is highly likely to find people who are opposed to such violations during the decision-making process. Therefore, by constructing a system that would make it easier to incorporate the opinions of individuals who are opposed to detrimental decisions, we believe it is possible to reduce organizational violations to a certain extent.

Ideas such as these are not strange at all; rather, they are very common. Until now, however, it has been extremely rare to see specific methods for preventing detrimental decision-making proposed and actually implemented.

In this sense, the System for Certifying Corporate Decision-Making Mechanisms and the Program for Enhancing the Soundness of Corporate Decision-Making—two specific science and technologies for society, which our group proposes—are highly original and, at the same time, have the full potential to be put to practical use.

The fact is, however, at the moment, investigation of only a portion of the system's components has been completed. Construction of a truly practical system will be made possible by integrating the results of present and future research with the results of research obtained to date.

Yet, the research of our group is already being evaluated highly, to a certain degree. For example, our group's research on organizational climate received excellent reviews at the Annual Meeting of the International Society of Political Psychology held in July 2003. We have received invitations from Canada and the UK to conduct additional tests there. Our research has also been evaluated favorably by Japanese researchers of industrial organizations, with particular attention paid to our study on corporate assessment methods.

Therefore, by continuing our research, we can expect to produce substantial results.