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Culture Influences Thinking: People's Conceptions of Creativity

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This article intends to highlight the influence of culture on thinking. The first part examines connotations of the word "thinking" in English, German and Japanese languages. Japanese language emphasizes both the affective and cognitive aspects of thinking, whereas English and German languages consider the latter. The second part discusses the position of "thinking" in psychology. It is believed that thinking processes should be investigated in relation to the daily life. The third part reviews people's conceptions of creativity in Germany and Japan. Laypersons' conceptions of thinking may provide useful information about cultural influences on thinking.

The Word "Thinking"

"**Think** is the general word, and can refer to any use of the intellect to arrive at ideas or conclusions" (Funk & Wagnalls, 1979, p. 618, bold in original text). Specific terms describing "thinking" or "to think" are such as "to cogitate" (to think seriously or continuously), "to reflect" (to look back in a thoughtful way), "to reason" (make logical or empirical generalizations based on evidence) and "to speculate" (to theorize on the basis of little or no evidence). These words refer to the process of setting "the mind to work in order to seek an understanding of something, solve a problem or get at the truth." (p. 618) Idea, concept, conception, impression, thought and notion are products of thinking. These terms denote "something that exists in the mind during the processes of perceiving, thinking or willing" (p. 283). Thinking is a covert process. Thus, most of the time one may not realize when thinking takes place and how it performs. According to French and Roger (1992), thinking occurs in every moment in life (active). It requires prior knowledge and language to formulate. It expresses thoughts and is the ability to develop representations of knowledge and concepts. Thinking is a recursive process. The thinker prepares to think, thinks, rethinks, checks, rechecks, and concludes at least at that point in time. With new information or in a new situation, the process may begin again. All human beings, children, adults or elderly people, think. Thinking is a natural process, and occurs in a context. Thinking process is influenced by the society. According to Wundt, thinking is "a kind of social psychological problem best studied naturalistically" (Dominowski & Bourne, 1994, p.5).

The Word "Thinking" Across Cultures. Connotations of the word "thinking" of different languages may provide some understanding of thinking across cultures. The word "thinking" in Japanese is "omou" that is represented by a vertical combination of two characters "field" and "heart". "Omou" according to a Japanese dictionary consists of the following connotations (Matsumura, 1989):

1 To evaluate and judge in the *kokoro* (heart), forming a person's opinions.

2 To bring events and thoughts that appear in the *atama* (brain).
3 To have attention and be conscious.
4 To concern about someone's future.
5 To miss the beloved or someone of the home country.

"Thinking" in English according to the Oxford English Dictionary (Simpson & Weiner, 1989) comprises the following connotations:

1 To conceive in mind, exercise the mind.
2 To call to mind, take into consideration.
3 To be of opinion, deem, judge etc.

Thinking or "Denken" in German, according to Brockhaus Encyclopedia involves higher recognizing abilities. It links with the visible objects, words or figures. Productive thinking consists of opinions that are organized in order, and that has treated a problem for a long duration. Thinking is not only an innate language. Ongoing thinking is supported by impressions. Invisible thinking always showed through body languages.

The word "thinking" in Japanese emphasizes more the affective than the cognitive aspect compared to that of English and German. One may interpret this to the emphasis of Japanese culture on affection and dependency. Thinking in the Japanese context performs in the *kokoro* heart and the *atama* brain. The emphasis on the affective aspect may be associated with the norm to maintain harmonious human relationships. In German and English languages the word "thinking" is purely related to cognition. For them, the brain is the organ that manipulates thinking processes.

"Thinking" in psychology

Thinking is a mental activity that a person performs, when information is gathered and used. The result of thinking is "thought". Thoughts are integrated information of a person's knowledge of a certain field or topic and of his (or her) experiences. In psychology, thinking is not only investigated from its products (thoughts), but also from its processes (how does thinking occur), components (what constitutes thinking), as well as from its influence on human beings' behaviors.

The study of thinking is one of the essential topics of psychology. Much knowledge of thinking can be found under the field "cognition". Thinking is also related to other fields such as learning and development. According to Koch and Leary's (1985) classification, cognition is one of the fields of psychology like sensory processes and perception; learning; motivation, emotion and value; development; personality; and social psychology. With the rapid development of communications, computer technology, and mathematics of systems, as in game theory and operations research, the study of thinking has gained its acknowledgment after 1950s (Newell, 1985). During this time there was a shift of attention to information-processing models. Segall and his colleagues (1990) claimed that "the study of cognitive activity is fundamental to psychology and to education" (p. 91). They introduced the study of everyday cognition. Cognitive ability related to our daily usage provides a link to understand thinking in various cultural settings. An example of this type of research is the study of practical intelligence (see Sternberg & Wagner, 1986). This study focuses on the kind of intelligence that is often used in daily life and/or on the jobs. Other examples are the investigation of lay theories in psychology (see Furnham, 1988), people's conceptions of creativity (see Tan, 1994 & 1995a), intelligence and wisdom (see Sternberg 1985).

People's Conception of Creativity Across Cultures

"Culture and individual are inseparable and that culture is the way we think, feel and behave." (Kim & Yamaguchi, 1994) Triandis's (1972) subjective culture is defined in terms of the way a person perceives his environment. "By subjective culture we mean a cultural group's characteristic way of perceiving its social environment." (p. 3) According to him, people who share a common language and who do similar activities have high rates of interaction. These frequent interactions provide the opportunity of the existence of similar norms, attitudes and roles. Similarities in physical type, sex, age, religion, place of residence and occupation increase such interactions, and induce a similar subjective culture.

In-Group Behaviors and Self-Disclosure. The Japanese subjective culture is collectivist (Hofstede, 1980) that emphasizes views, needs, and goals of the in-group rather than that of an individual (Triandis, 1990). In-group is a group whose norms, goals and values shape the behavior of its members. Social norms and duty of a collectivist society are defined by the in-group. Beliefs are shared. There is a great readiness of the people to cooperate with the in-group members. Team work and group reward are the two important characteristics of the Japanese (Suzawa, 1985). Outstanding personal achievement

under the influence of strong in-group behaviors may be perceived as a life event that brings forth not only eustress (pleasant stress) but also hyperstress (overstress) (Tan, 1995b). One confronts with the principle of commonality of a group if one performs different from others. Strong conformity to the in-group norms may discourage a person to voice his (or her) opinions orally before knowing the consensus. Kawakita-Jiro (K-J) developed a brainstorming method in Japan. Participants organize their creative ideas with cards. Cards help to reduce the insecurity of an individual to express different ideas in a group.

In a cross-cultural study (Tan, 1995b), Japanese engineering students' conceptions of technical creativity (N=109, average age=21.3) were compared with those of the German engineering students (N=80, average age=23.3). Subjects were requested to disclose whether they attended technical courses, possessed self-confidence to create something and which type of social supports they would seek if they would realize an invention. Results showed that Japanese students disclosed less than their German counterparts (see Table 1). Less than one-third of the Japanese students gave a positive answer to questions regarding attendance of technical courses and confidence to create compared to more than three quarters of the German students. German students were more keen to seek social supports from various sources than the Japanese students. German students who live in an individualist society would seek supports through reading book (first rank), discussing with fellow student (rank 2) and would realize the invention themselves (rank 3). Japanese students, on the other hand, would seek knowledge from the book (rank 1) and journal (rank 2) before they consult their fellow students (rank 3.5), tutor (rank 3.5) and professor (rank 5). Professor was not a significant resource of social supports for the German students (rank 7). The Japanese students who have collectivist behaviors did not consider using their own efforts as an important means to realize the invention (rank 9, the lowest rank). Living in a society which emphasizes the harmonious relationship between seniors and juniors, the Japanese were fond of getting advice from their superiors (for example, professors).

The industrialized culture of a society influences the people's conceptions of creativity. Convenience and newness are two creative features of technical products that the Japanese students were more concerned than their German counterparts (see Table 2). German students on the other hand showed a greater favor of economic features. The Germans are proficient manufacturers for machinery tools, whereas the Japanese are fine manufacturers of electronic goods, semiconductors and computer (Okurasho, 1994). Machinery tools are meant to accelerate the production. Time, work and cost reduction are important features. Compact and new are two essential characteristics of electrical and electronic products. Though there is no significant difference between the German and Japanese perceptions of beneficial features of technical products, the German students showed a higher concern of this aspect. The Green Peace activity has stimulated the German society's consciousness in protecting the natural environment. For the German engineering students besides the economic characteristic, technical products should consist of features that are not destructive to the environment.

Summary

The concept of thinking is examined from various perspectives. Connotations of thinking in various languages show that some cultures emphasize the affective aspect of thinking and

Table 1. Self-Disclosure Across Cultures

	German (n=80) No. (%)		Japanese (n=109) No. (%)	
Attended technical course	77 (96.3)		17 (15.6)	
Had confidence to create something	60 (75.0)		31 (28.4)	
Source of social supports for realizing an invention:				
		Rank		Rank
Book	47 (58.8)	1	51 (46.8)	1
Student	37 (46.3)	2	25 (22.9)	3.5
Self	36 (45.0)	3	6 (5.5)	9
Journal	26 (37.5)	4	37 (33.9)	2
Tutor	19 (23.8)	5	24 (22.0)	3.5
Patent	15 (18.8)	6	9 (8.3)	7
Professor	14 (17.5)	7	22 (20.2)	5
Database	13 (16.3)	8	8 (7.3)	8
Checklist	12 (15.0)	9	14 (12.8)	6

Table 2: People's Conception of Creative Products

Creative Features of Products	German (n =80) Mean (SD)	Japanese (n=109) Mean (SD)
Economic features (eg time, work and cost reduction, marketability)	5.23 (0.91)***	4.56 (1.15)
Beneficial features (eg environmentally friendly, energy saving)	5.64 (1.17)	5.30 (1.43)
Newness (eg interesting, unconventional)	4.27 (1.46)***	5.04 (1.17)
Convenience (eg handy, compact, no maintenance)	3.98 (1.30)***	4.87 (1.24)

Note: ***$p < 0.001$

some emphasize the cognitive aspect. Thinking is an important theme in psychology. Creativity is investigated in Japan and Germany. In Japan, strong conformity to the in-group reduces the willingness to disclose different opinions and behaviors from the group. Japanese conceptions of creative products reflect the success in electronic and semiconductor fields. On the other hand, German conceptions of technical products reflect their prevailing strength in machinery sectors and concern of environmental problems.

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