

**Parallel session 5: PCST challenges and tools directed to young people**

**SOUTH KOREAN YOUTHS' IMPRESSIONS OF THE SCIENTIST: A NATIONAL SURVEY ANALYSIS**

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**Abstract**

This study shows impressions of the scientist that Korean youths hold. The “impression” concept, indicating salience and consequentiality of an object, differs from the more identificatory “image” concept. Most elements composing those impressions are found to be related to activities (not products) of the scientist, and most cognitive relations composing them imply “power” of the scientist. And the impressions seem to originate mostly from television and books rather than from school classes.

**Key words:** scientist’s impression, scientist’s image, source of scientist’s impression.

**Text**

The main purpose of this paper is to present Korean youths' impressions of the scientist, which are considered to be products of science communication. And then we explore how to improve them. Here, the concept of impression is assumed to reflect our consequential and salient view of an object -- better than that of image, usually limited to our identification of an object. Thus, we are more likely to behave in a certain way toward an object, here the scientist, based on an impression that is conceived to be “significant” and “meaningful” at a particular time and place. The impression is composed of at minimum one element evoked in relation to the scientist and using one cognitive relation that connects the scientist with that evoked element.

In late August and early September 2002, a national face-to-face interview survey of 1,204 youths (406 for 5th grade; 381 for 8th grade; and 417 for 11th grade) was conducted to find the South Korean youths' impressions of the scientist. Our major finding is that the most elements evoked in relation to the

word scientist (41.9%) are the scientist's activities such as inventing, experimenting, researching, etc. (Table 1). A surprise is that the youths unlike adults are not impressed most by the class of accomplishments or products (e.g. automobile, airplane, refrigerator, television set, etc) of the scientist. The youths are found to compose their impressions of the scientist with two major cognitive relations: the evoked element being part of the scientist (37.0%) and being a consequence of the scientist (26.2%) (Figure 1). This implies a scientist's power to control or make a difference in the evoked element. These impressions are found to originate mostly from books (more for the primary school students) and television (more for the middle and high school students) rather than from school classes (Table 2). Also, the youths seem to be most impressed by Edison and Einstein (Table 3).

Finally, our suggestion for enhancing the youths' "consequential" impressions of the scientist is that we had better make them more aware of accomplishments and products through television and books.

**Table 1:** Elements of the Korean Youths' and Adults' Impressions of the Scientist

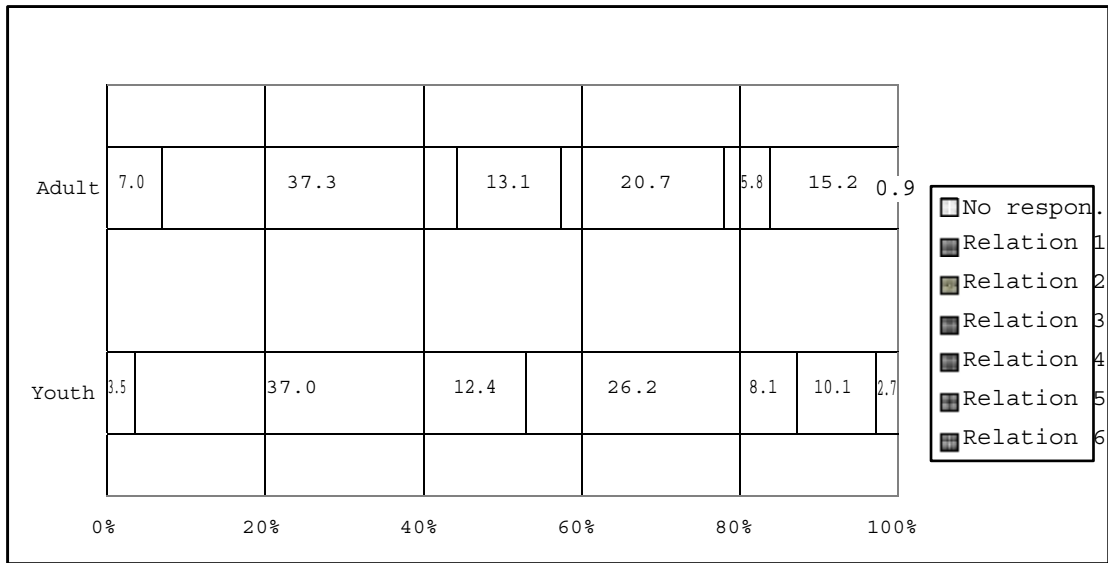
(Q: What first comes to your mind as you hear the word "Scientist"?)

Class	Category	Element	By Youths <sup>*</sup>		By Adults <sup>**</sup>	
			(%)	(%)	(%)	(%)
Activity-related	Activity itself		26.7	41.9	15.2	24.9
	Tools		11.7		3.7	
	Jargons		1.2		0	
	Activity evaluation	Positive	0.9		3.4	
		Negative	1.2		2.6	
Study activity		0.2	0			
Human characteristics	Common char.		5.4	16.0	5.3	20.6
	Evaluation of human char.	Positive	7.7		13.4	
		Negative	2		1.9	
		Neutral	0.2		0	
Appearances		0.7	0			
Personality	Names of profession		3.1	3.1	4.2	4.2
	Specific names	Famous scientist	13.9	14.0	8.3	8.3

		Acquaintances	0.1			
Affiliated organization			1.3	1.3	5.3	5.3
Fields	General		3.4	8.7	7.4	7.4
	Specific		5.3			
Accomplishments	Specific		9.4	11.5	15.1	19.5
	General	Positive	1.8		4	
		Negative	0.2		0.1	
		Neutral	0.1		0.3	
Socio-economic conditions	Economic	Rich	0.1	0.8	0.6	0.6
		Poor	0			
		Middle	0.5			
	Status		0.2		0	
Mass media-related			0.4	0.4	0	0.0
Others			1.5	1.5	1.9	1.9
<u>No Response</u>			0.3	0.3	7.2	7.2
None			0.7	0.7	0	0.0
Sum			100	100.0	100	100.0

\*National survey of youths(1212) impression of “the scientist” in 2002: 5<sup>th</sup> grade, 8<sup>th</sup> grade, and 11<sup>th</sup> grade.

\*\*National survey of adults(1161) impression of “the SET”(Scientist-Engineer-Technician) in 1999.



**Figure 1:** The Proportions of the Korean Adults' and Youths' Cognitive Relations Used to Compose Impressions of the Scientist

(Q: How do you relate the evoked element to the scientist?)

The relations on the right indicate as follows:

Relation 1: an evoked element is part of the scientist;

Relation 2: the scientist is part of an evoked element;

Relation 3: an evoked element is consequence of the scientist;

Relation 4: the scientist is consequence of an evoked element;

Relation 5: an evoked element and the scientist are the same thing;

Relation 6: an evoked element is no scientist.

**Table 2:** Sources of the Youths' Impressions of the Scientist

(Q: Where do you get mostly such an impression of the scientist?)

Sources		Freq.	(%)
Mass	TV	350	28.9
	Movie	31	2.6
	Radio	2	0.2

	Book	371	30.6
	Newspaper	12	1.0
	Internet	2	0.2
	Other	14	1.2
School class		152	12.5
Acquaintance		24	2.0
Off-school activity		11	0.9
Daily life		11	0.9
Common sense		48	4.0
Other		42	3.5
	No response	110	9.1
	No recall	6	0.5
	None	21	1.7
	Don't know	5	0.4
Sum		1212	100.0

**Table 3. The Youths' Personality-related Impression of the Scientist**

(Q: Who first comes to your mind as you hear the word "Scientist"?)

Personality	Freq.	(%)
Edison	434	37.2
Einstein	373	31.9
Newton	71	6.1
Yong-Sil CHANG	61	5.2

Nobel	42	3.6
Marie Curie	32	2.7
School teacher	22	1.9
Stephen Hocking	20	1.7
Chang-Choon WOO	11	0.9
Pavro	8	0.7
Parent	7	0.6
King Sejong	6	0.5
Bell	6	0.5
Wright Brothers	5	0.4
Hue-So LEE	5	0.4
Galileo	5	0.4
Other	60	5.1
Sum	1168	100

