The Role of Similarity in the Metaphor and Simile Preference[*]

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The purpose of this article is to examine the role of similarity in the metaphor and simile preference and offer empirical evidence against the equivalence view of simile and metaphor. This evidence was obtained from two experiments to examine the correlation between the similarity ratings and the preference ratings. The results suggest that Korean people choose the metaphor form when the similarity of a target and a source increases, whereas they choose the simile form when the similarity of a target and a source decreases. The results from these experiments are consistent with Chiappe and Kennedy's (1999, 2001) findings. Moreover, the experiments found that Korean people were more likely to express particular comparisons as similes over metaphors than American people.

[metaphor/simile/preference/similarity, 은유/직유/선호/유사성]

I. INTRODUCTION

Metaphors and similes use nearly identical wording. Nominal metaphors of the form (1) can often be paraphrased as similes (2).

(1) X is Y.
(2) X is like Y.

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For example, we can say both (3) and (4),

(3) a. His sermons are sleeping pills.
    b. Rumors are weeds.
    c. Men are wolves.
(4) a. His sermons are like sleeping pills.
    b. Rumors are like weeds.
    c. Men are like wolves.

One might wonder why figurative language remains both metaphor and simile because they are virtually twins. Why not simplify our language and eliminate simile or metaphor? There are two major views of metaphor and simile. One is the equivalence view and the other is the nonequivalence view. For many years, since Aristotle, major theories of metaphor regarded simile and metaphor as equivalent and suggested that one form is more basic than the other. For example, Miller (1979) argues that the simile form is more basic than the metaphor form and suggests that metaphors are in fact elliptical similes. Ortony(1979) draws a related distinction between a simile as a direct nonliteral comparison and a metaphor as an indirect comparison. Lakoff and Johnson (1980) regards similes and metaphors as the same.

Several psycholinguistic researchers have challenged this claim that similes and metaphors are equivalent. They analyze the similes and metaphors as nonequivalent. These two, similes and metaphors, reflect and have an effect on different cognitive processes and are used for different functions. Glucksberg and Keysar (1990) argued this. They suggested that metaphors are basic and similes are implicit metaphors because metaphors are inherently categorization statements and similes are implicit categorization statements. Recently, Gentner and Bowdle (2001) suggest that both the simile form and the metaphor form are linguistic signals that invite specific psychological processes. Gentner and Bowdle (2001) wrote that "the metaphor form invites the search for a hierarchically appropriate category, while the simile form invites comparison."(p.237) And also Chiappe and Kennedy (1999, 2000, 2001) suggest that metaphors might be modeled on literal categorization statements and similes might be modeled on literal comparison statements.

Which view is right, the equivalence view or the nonequivalence view? To answer this question, I will offer two experiments and provide empirical evidence

against the equivalence view of simile and metaphor. This paper is organized as follows: In section 2, I introduce the equivalence view and the nonequivalence of simile and metaphor. In section 3, I offer two experiments to examine the correlation between the similarity ratings and the preference ratings. In section 4, I discuss the results of this study and conclude with the answer to the question above.

II. THE METAPHOR AND SIMILE DISTINCTION

In section 2, I will introduce the equivalence view (the comparison view and conceptual view) and the nonequivalence view (the categorization view, the career of metaphor view, and the literal base view) of simile and metaphor.

1. The equivalence view

1) The comparison view

Aristotle is the source of the comparison view of metaphor. Aristotle gave metaphor the following definition.

(5) Metaphor consists in giving the thing a name that belongs to something else; the transference being either from genus to species, or from species to genus, or from species to species, or on the ground of analogy. (Poetics, 1457b)

One important idea comes from Aristotle's definition of metaphor (5). That is, metaphor is based on similarities between two things. Aristotle suggested metaphors are elliptical similes as he noted for poets as in (6).

(6) The greatest thing by far is to be a master of metaphor. It is the one thing that cannot be learned from others; and it is also a sign of genius, since a good metaphor implies an intuitive perception of the similarity in dissimilars. (Poetics, 1459a)

Miller (1979) also argues that the simile form is more basic than the metaphor form and suggests that metaphors are in fact elliptical similes. Miller argues that metaphors are recognized as false and then treated as comparison statements. For

example, (7) is false in fact. In order to understand (7), the reader must associate
it with (8) or even weaker, (9),

(7) Man is a wolf.
(8) Man is like a wolf.
(9) Man seems like a wolf.

Ortony (1979) draws a related distinction between a metaphor as an indirect
comparison and a simile which is a direct nonliteral comparison. According to him,
metaphors and similes are similarity statements with targets and sources that share
properties, but these properties should be highly salient for the source and relatively
low salient for the target. For example, in a metaphoric similarity statement like
(10), the property 'inducing drowsiness' is more salient with respect to sleeping
pills than to sermons.

(10) Sermons are like sleeping pills.

On the other hand, he argued that, unlike (10), such a statement as (11) is a
literal similarity statement because there are many salient properties for both the
target and the source, and such a statement as (12) is an anomalous similarity
statement because there are no obvious salient properties of grapefruit that are
shared with sermons.

(11) Sermons are like lectures.
(12) *Sermons are like grapefruit.

2) The conceptual metaphor view

Lakoff and Johnson (1980, 1999) proposed that metaphor is not a linguistic process
but rather a conceptual process. This process is a mapping process between two
domains (target and source domains). According to Aisenman (1999), their
argument implies "rejecting any difference between similes and metaphors because
they differ linguistically only in the surface presence or absence of the word
'like'"(p.46). The conceptual view regarded similes and metaphors as the same with
regard to comprehension, interpretation, and usage.

2. The nonequivalence view

1) The categorization view

Glucksberg and Keysar (1990, 1993) argued that the metaphor form is more basic than the simile form because metaphors are inherently categorization statements and similes are implicit categorization statements. They argued that all metaphors are categorization statements, not implicit similes. For example, metaphors like (13) are not understood by transforming them into similes like (14). Instead they are intended as categorization statements, in which the target of the metaphor (e.g., my job) is assigned to a metaphoric category (e.g., entities that confine one against one's will, are unpleasant, are difficult to escape from). In such statements, the metaphor source (e.g., jail) refers to that category, and at the same time is a prototypical member of that category. When someone says (13), the intention is for the hearer to understand that the job in question has all the properties of the attributive category that is called 'jail.'

(13) My job is a jail.
(14) My job is like a jail.

Unlike metaphoric categorization statements, literal categorization statements like (15) cannot be paraphrased as the literal comparison statements like (16).

(15) Flowers are plants.
(16) *Flowers are like plants.

They argued that similes are implicit metaphors. That is, similes are implicit categorization statements. Glucksberg and Keysar suggested that similes must be transformed into metaphors to be understood and may convey less information than metaphors. Although they have the surface form of similarity statements, similes actually have the subordinate- superordinate structure of metaphors. They argued that similes (or metaphoric comparisons) involve items at different category levels and thus are implicit categorization statements. That is, the simile like (17) can be paraphrased as the categorization statement like (18) because they are implicit categorization statements.

(17) Cigarettes are like time bombs.
(18) Cigarettes are time bombs.

However, literal comparison statements typically involve objects at the same level of categorization. Unlike metaphoric comparison statements (or similes), literal comparison statements like (19) cannot be paraphrased as categorization statements like (20).

(19) Harvard is like Yale.
(20) *Harvard is Yale.

2) The career of metaphor view

Gentner and Bowdle (2001) argue that metaphors should invite classifying the target as a member of a category named by the source, whereas similes should invite comparing the target and the source. Gentner and Bowdle (2001) wrote that "metaphors are grammatically identical to literal categorization statements, and similes are grammatically identical to literal comparison statements" (p.231). For example, (21) is grammatically identical to (22), whereas (23) is grammatically identical to (24). They suggest that accepting form typically follows function in language including both literal and figurative, metaphors and similes may tend to promote different comprehension strategies. That is, the metaphor form invites categorization, whereas the simile form invites comparison.

(21) Time is a river.
(22) a. All pianos are musical instruments.
     b. A sparrow is a bird.
(23) Time is like a river.
(24) a. Squash is like racquetball.
     b. A sparrow is like a robin.

3) The literal base view

Chiappe and Kennedy (2001) argue figurative statements borrow some of their features from the literal forms on which they are based. In literal language, the categorical form is used when there are many common properties, whereas the

similarity form is used when there are few common properties. That is, hypothetically, metaphors might be modeled on literal categorization statements. For example, metaphors such as (25) have a form that is identical to literal categorization statements such as (26). As literal categorization statement (26) asserts that the target 'Ford' belongs to the category 'car,' metaphor (25) asserts that the target 'rumor' belongs to the category referred to by the source 'weed.'

(25) A rumor is a weed.
(26) A Ford is a car.

In contrast, hypothetically, similes might be modeled on literal comparison statements (or literal similarity form). For example, similes like (27) have a form that is identical to literal comparison statements like (28). As literal comparison statement (28) asserts that the target 'a lime' and the source 'a lemon' are similar, so simile (27) asserts that the target 'a rumor' and the source 'a weed' are similar. In other words, as (28) does not assert that a lime is a lemon, so (27) does not assert that a rumor is a weed. That is, as a lime is not a lemon, a rumor is not a weed.

(27) A rumor is like a weed.
(28) A lime is like a lemon.

Chiappe and Kennedy (2001) hold that metaphors and similes are both statements about the similarity between the target and the source, and that metaphors are used when the similarity of the target and the source is quite high, whereas similes are used when the similarity is quite low. Chiappe and Kennedy (1999) reported that participants prefer to express some comparisons as metaphors and some comparisons as similes. In the following examples excerpted from Chiappe and Kennedy (1999), people generally prefer the metaphor form (29) to simile form (30) of a statement, whereas, in (31) and (32), people generally prefer the simile form (32) to metaphor form (31) of a statement.

(29) a. Life is a journey.
     b. Cigarettes are time bombs.
     c. Genes are blueprints.
     d. Education is a stairway

(30) a. Life is like a journey.

    b. Cigarettes are like time bombs.

    c. Genes are like blueprints.

    d. Education is like a stairway

(31) a. Highways are snakes.

    b. Trees are umbrellas.

    c. Giraffe are skyscrapers.

    d. Jobs are jails.

(32) a. Highways are like snakes.

    b. Trees are like umbrellas.

    c. Giraffe are like skyscrapers.

    d. Jobs are like jails.

III. EXPERIMENTS

In section 3, I will offer two experiment to examine the correlation between the similarity ratings and the preference ratings and derive evidence against the equivalence view.

1. Experiment 1

In Experiment 1, I examined whether there is a consensus between individuals on which form they prefer to express particular comparisons, the simile or the metaphor form. Subjects were shown both metaphor and simile forms of the 30 comparisons and they were asked to indicate which form they preferred.

1) Method

    Subjects. Thirty individuals (18 women and 12 men) with a mean age of 22.4 years participated in this experiment. Subjects were volunteers from a 3rd-year course in English. All the students were from Semyung University. Subjects were tested individually. None had participated in metaphor and simile-related studies before, and Korean was their first language.

    Stimuli and apparatus. In this experiment, I used 30 statements in both their metaphor and simile forms. The items 16 out of the 30 items were taken from

Chiappe and Kennedy (1999) and combined with 14 new items. I chose culture-general items, not culture-specific items. The items were presented in English. The statements were rated in terms of whether they are best expressed as metaphor forms or simile forms. I calculated the proportion of people that prefer them as metaphor forms and the proportion that prefer them as similes. Subjects were presented both metaphor and simile forms in booklets, 10 pairs of statements per page.

Procedure. Subjects saw both metaphor and simile forms of the 30 comparisons, and indicated which form they preferred. The items were presented in random order, with one for each subject. The metaphor and simile forms of a statement were presented at opposite ends of a 10-point scale. For example, "time is money" was presented at one end, and "time is like money" was presented at the other. Subjects were asked to indicate their preference by circling a number close to the form of the comparison they preferred using a scale ranging from 1 (best expressed as similes) to 10 (best expressed as metaphors). Higher numbers indicated preference for the metaphor, lower numbers indicated preference for similes. Numbers 5 or 6 were used to indicate a weak preference for the simile or metaphor, respectively. Therefore, both Numbers 5 and 6 were excluded for preference ratings.

2) Results and Discussion

The results of the experiment 1 were as follows: The proportion (listed in Table 1) of subjects that preferred the metaphor "life is a journey" was .56 (and the simile .44, of course). The proportion of subjects that preferred the simile "rain is like tears" was .76 (and the metaphor "rain is tears" was .24). The consensus levels for theses comparisons are .56 and .76, respectively. The mean consensus level across the 30 comparisons was .70 (SD = .11). The results are similar to Chiappe and Kennedy's (1999) findings. They reported that across the 30 comparisons, the mean consensus level was .73 (SD = .14). This level of consensus is not random [$t(29)$ = 9.93, p = .000]. Thus, generally, there was significant agreement between subjects on how particular comparisons should be expressed. The consensus covered the range from random (e.g., .52 for "life-play," as a metaphor) to close to unanimous (e.g., .86 for "sun-orange," as a metaphor). An analysis of critical ratio (CRs) shows that when N = 30, consensus levels of .70 and greater are above chance on a two-tailed test (CR = 2.04, p < .05).

TABLE 1

Levels of consensus, metaphor preference, and mean preference rating for the
metaphor for 30 comparisons

Comparison	Consensus	Metaphor Preference	Mean Metaphor Preference
movie 'Titanic' – blockbuster †	.85	.85	8.11
time – money †	.84	.84	8.07
man – wolf †	.71	.71	6.71
crime – disease	.62	.62	6.18
deserts – ovens	.61	.61	5.93
life – play	.52	.52	5.89
time – river	.54	.46	5.68
cigarettes – time bombs	.54	.46	5.68
encyclopedia – gold mine	.55	.45	5.61
life – journey	.56	.44	5.50
marriage – zero-some game	.56	.44	5.29
sermons – sleeping pills	.55	.55	5.24
genes – blueprints	.61	.39	4.89
arguing – war	.65	.35	4.82
soccer – war	.68	.32	4.64
jobs – jails *	.70	.30	4.57
education – stairway *	.71	.29	4.43
lifetime – day *	.72	.28	4.36
salesman – bulldozer *	.73	.27	4.32
mosquitos – vampires *	.74	.26	4.29
rain – tears *	.74	.26	4.29
surgeons – butchers *	.76	.24	4.18
highways – snakes *	.80	.20	4.18
memory – sponge *	.81	.19	4.11
giraffes – skyscrapers *	.82	.18	4.04
rage –volcano *	.82	.18	3.82
sun – orange *	.83	.17	3.82
rumor – weed *	.83	.17	3.79
tree –umbrella *	.84	.16	3.79
science – glacier *	.86	.14	3.61

In Table 1, we also revealed that the preferences per form varied greatly. They ranged from 14% ("sun-orange") of the subjects preferring the metaphor form to 85% ("movie 'Titanic'-blockbuster") preferring the metaphor form. Seven of 30 items were preferred as metaphors, whereas twenty-three items were preferred as similes. However, preference for comparison type was significant for only 18 of 30 items (15 similes and 3 metaphors). That is, in Table 1, comparisons marked with an asterisk had a significant preference for their simile form, and comparisons marked with a dagger had a significant preference for the metaphor form. The mean proportion of metaphors chosen was .37 (*SD* = .20). This was significantly less than chance [*t(29)* = 2.23, *p* < .05]. Thus, in general, subjects preferred the simile form of a comparison over the metaphor form. The results are also similar to Chiappe and Kennedy's (1999) findings. They found that the mean proportion of metaphors chosen was .39 (*SD* = .25).

Finally, for the preference-rating task, the mean preference rating across the 30 comparisons was 4.99 (SD = 1.17), revealing a slight, but not significant, preference overall for the simile form of the statements, [t(29) = -0.031, p > .05]. However, there was a considerable range in the preference ratings. For instance, the mean preference rating for the metaphor form of the comparison between 'time' and 'money' was 8.07 out of 10. In contrast, the mean preference rating for the metaphor form of the comparison between 'science' and 'glacier' 3.61 out of 10. The comparisons, along with consensus, metaphor preference, and mean metaphor reference, are listed in Table 1.

In short, Experiment 1 showed a significant consensus between subjects on how they express best some expressions. Korean people prefer to express some comparison as metaphors and some as similes.

2. Experiment 2

In Experiment 2, I examined whether preference reflects the similarity of comparisons. Subjects saw pairs of targets and sources and rated their similarity.

1) Method

Subjects. Twenty-two subjects (20 women and 10 men) with a mean age of 23.6 years participated. Subjects were volunteers from a 4th-year course in English. All the students were from Semyung University. Subjects were tested individually.

None had participated in metaphor & simile-related studies before, and Korean was their first language.

Stimuli and apparatus. The items for this study were the targets and sources of 30 figurative statements used in Experiment 1. The items were presented in English. The pairs of targets and sources from these statements were shown to the subjects. For instance, the subjects saw 'crime' paired with the vehicle 'disease', but the pairs were not put in the form of a metaphor and simile. Subjects were presented the pairs of targets and sources in booklets, 10 pairs of terms per page.

Procedure. Subjects saw 30 pairs of targets and sources, such as "crime-disease," "jobs-jails," and so on. The items were presented in random order, with one for each subject. The subjects were asked to read each item and judge similarity using a scale ranging from 1 (not similar at all) to 10 (extremely similar). For example, they were asked, How similar is crime to disease? Then they circled a number from 1 to 10.

2) Results and Discussion

The results of the experiment were as follows: The mean similarity rating for the pairs of targets and sources was 6.46 (SD = 1.23). The range was from 4.23 for the comparison between 'surgeons' and 'butchers' to 8.57 for the comparison between 'time' and 'money.' The results are higher than Chiappe and Kennedy's (2001) findings. They reported that the mean similarity rating was 3.22 (SD = 1.24). Thus, the results showed that the similarity ratings were on average high and there was a considerable range in similarity ratings across the pairs of 30 items. The similarity ratings for 30 pairs are listed in Table 2.

I was interested in whether the similarity ratings obtained from the pairs of targets and sources were able to predict the preference for the metaphor and simile form that I obtained form Experiment 1. The similarity ratings predicted preference for the metaphor or simile form of the statements. The correlation coefficient (summarized in Table 3) between the similarity ratings and the preference ratings was +.56 (p < .001). That is, the correlation between similarity and metaphor preference was significant in Experiment 2, p = .001. The results are similar to Chiappe and Kennedy's (2001) findings. They reported that the correlation was +.61 (p<.01). Thus, as the similarity increased, preference for the metaphor form did too. For example, 'time' was rated as highly similar to 'money,'

and Korean people generally prefer "time is money" to "time is like money." Table 3 shows the correlation between the similarity ratings and the preference ratings.

TABLE 2
Similarity ratings for the pairs of 30 comparisons

Comparison	Similarity rating
time – money	8.57
education – stairway	8.37
life – journey	8.23
life – play	8.00
deserts – ovens	8.00
movie 'Titanic' – blockbuster	7.90
time – river	7.83
rage – volcano	7.67
mosquitos – vampires	7.10
arguing – war	6.87
crime – disease	6.80
cigarette– time bombs	6.70
man – wolf	6.57
sermons – sleeping pills	6.53
rumor – weed	6.43
memory – sponge	6.33
soccer – war	6.27
genes – blueprints	6.17
lifetime – day	6.17
rain – tears	6.03
salesman – bulldozer	6.00
science – glacier	5.90
jobs – jails	5.60
encyclopedia – gold mine	5.43
marriage – zero-sum game	5.30
tree – umbrella	5.13
giraffes – skyscrapers	5.00
highways – snakes	4.40
sun – orange	4.27
surgeons – butchers	4.23

TABLE 3

Correlation between metaphor and similarity preference

Variables	Mean	SD	Correlation Coefficient	p-value
Metaphor Preference	4.99	1.17	0.563	0.001
Similarity	6.46	1.233		

In short, Experiment 2 showed there is the correlation between the similarity and the simile - metaphor preference. Korean people preferred the metaphor form to the simile form when the similarity of targets and sources increases.

Ⅳ. GENERAL DISCUSSION

Evidently, how a comparison is expressed is related to the similarity between the target and source concepts. Experiment 1 found that Korean people preferred some comparisons as metaphors, others as similes, and for some there was no clear preference for either form of the comparison. This suggests that preference for the form of a comparison is not idiosyncratic, but there is consensus between Korean people on how a comparison should be expressed. Experiment 2 found that Korean people choose the metaphor form when the similarity of targets and sources is high and the simile when the similarity is low. This suggests that there is the correlation between the similarity and the simile-metaphor preference.

However, I acknowledge another factor might be in play, in addition to similarity. Similarity is not the only factor determining how people choose to express the relation between a target and a source. For example, another significant factor is a person's familiarity with an expression. Through use, certain comparisons become more familiar to people as metaphors or as similes. Thus, people might choose to express the comparisons in their more familiar form. For example, the metaphor "man is a wolf" is more familiar than "man is like a wolf" in our culture. Hence, 71% of Korean subjects preferred the metaphor form to the simile form. In contrast, according to Chiappe and Kennedy (1999), only 20% of American subjects preferred the metaphor form. That is, American people preferred the simile "man is like a wolf" to "man is a wolf." The metaphor preference for the 16 comparisons that

were used in this experiment and Chiappe and Kennedy (1999) is listed in Table 4. The mean proportion of metaphors Korean subjects chose for the 16 comparisons was .31 (*SD* = *.16)*, whereas the mean proportion of metaphors American subjects was .43 (*SD* = .29). This suggests that Korean people were more likely to express particular comparisons as similes over metaphors than American people.

TABLE 4
Metaphor preference for 16 comparisons used in Kim (2003)
and Chiappe and Kennedy (1999)

Comparison	Kim(2003)	Chiappe & Kennedy(1999)
man - wolf	.71	.20
crime - disease	.62	.67
sermons - sleeping pills	.55	.33
encyclopedia - gold mine	.45	.60
life - journey	.44	.97
cigarettes - time bombs	.44	.87
genes - blueprints	.39	.87
arguing - war	.35	.37
education - stairway	.29	.70
salesman - bulldozer	.28	.33
jobs - jails	.27	.17
mosquitos - vampires	.26	.40
tree - umbrella	.20	.10
giraffes - skyscrapers	.19	.13
highways - snakes	.18	.03
surgeons - butchers	.18	.40

The results of these experiments are relevant to views of simile and metaphor. The results of these experiments are inconsistent with the equivalence view: The comparison view and conceptual view. The comparison view, which goes back to Aristotle, argues that metaphors are short forms of similes with the term of comparison 'like' left out (Billow, 1977; Fogelin, 1988; Miller, 1979; Ortony, 1979).

However, the comparison view has trouble in predicting an increase in preference for the metaphor form as similarity increases. If, as the view argues, metaphors are short forms of similes, there is no ground for choosing one form over the other as far as the similarity between the target and source concepts is concerned. Likewise, the conceptual view doesn't predict an increase in preference for the metaphor form as similarity increases because it argues that similes differ from metaphors linguistically but they are the same conceptually. Thus, the equivalence view may be wrong.

On the other hand, The categorization view has offered bases for the claim that preference for the metaphor form increases as similarity increases. Furthermore, it may be right that metaphors are categorization statements. However, The categorization view was criticized for dismissing the simile form as a weaker variant. For example, Gentner and Bowdle (2001) argued that people regarded similes to be as or more metaphoric than metaphors. The career of metaphor of Gentner and Bowdle suggested that both the simile form and the metaphor form are linguistic signals that invite specific psychological processes. Metaphor form invites the search for a hierarchically appropriate category, while the simile form invites comparison.

The career of metaphor view and the literal base view agree in predicting that high similarity is a decisive factor in metaphor processing. However, the literal base view goes further and suggests that whether a comparison is expressed as a simile form or a metaphor form depends on the similarity between its target and source. Chiappe and Kennedy (2001) showed that the metaphor form is preferred over the simile form when the similarity between the target and the source is high. Likewise, these present experiments shows the results that are consistent with their findings. The literal base view suggested that metaphors and similes are both statements about the similarity between the target and source. The predictions of the career of metaphor view and the literal base view do not fully coincide.

In conclusion, metaphor forms are used when the similarities are high, whereas simile forms are used when the similarities are low. Thus, the nonequivalent view is right. However, the following question remains unanswered: Which view is correct, the categorization view, the career of metaphor view, or the literal base view? In the future, I will try to answer the question.

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예시언어(Examples in): English
적용가능 언어(Applicable Languages): English
적용가능 수준(Applicable Levels): College/Higher

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