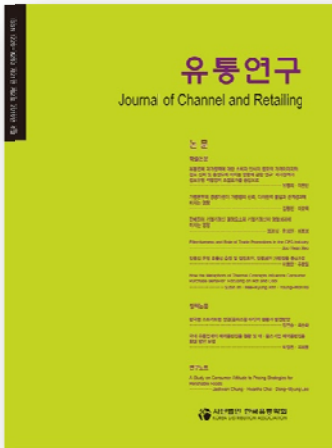


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### “How the Metaphors of Thermal Concepts Influence Consumer Purchase Behavior: Focusing on Hot and Cool” \_학술논문

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# How the Metaphors of Thermal Concepts Influence Consumer Purchase Behavior: Focusing on Hot and Cool\*

Subin Im\*\*, Hee-Kyung Ahn\*\*\*, Young-Won Ha\*\*\*\*

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Despite recent studies that suggest that the metaphoric links have a profound impact on consumer judgment and decision-making, we are unaware of any studies that focus on how consumers encode and retrieve thermal associations related to 'hot' and 'cool' before they react and behave according to the thermal metaphors. In order to fill the gap of research on the thermal metaphors related to hot and cool, this exploratory research examines the metaphorical similarities and differences of these two thermal concepts, hot and cool, and to propose a theoretical model that examines how these thermal concepts influence the value of the product which in turn, impacts consumers' purchase behavior. Our exploratory interviews with young consumers after they participated in the structured survey, help us develop a theoretical model that examines the impact of thermal metaphoric concepts on purchase behavior in the product adoption context. We propose this model to guide subsequent empirical studies that examine the role of the thermal metaphoric concepts on consumers' purchase decision making in retail environments.

Keywords: temperature, metaphor, product adoption, exploratory research

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## I. INTRODUCTION

People frequently use metaphors to express their thoughts and feelings. The widespread usages of metaphors seem to reflect how knowledge is represented in human memories (Barsalou 1999). In particular, the theory of perceptual symbol systems (henceforth, PSS; Barsalou 1999) suggests that knowledge is often represented as perceptual symbols rather than as amodal propositions or feature lists. Furthermore, the theory of PSS posits that concepts

perceived as co-varying are encoded, stored, and retrieved as if they in fact co-vary. To illustrate, Zhong and Leonardelli (2008) demonstrated that social exclusion actually makes people feel literally cold, and Williams and Bargh (2008) showed that when participants held cups of hot coffee, they judged other people as being warmer than when participants were holding cups of cold coffee. These findings seem to support the notion that metaphoric language and experience can not only determine how knowledge is encoded and retrieved, but also explain

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how people react against different thermal stimuli.

Recently marketing/consumer researchers have found that the metaphoric links can have a profound impact on consumer judgment and decision-making (Ahn 2012; Nelson and Simmons 2009; Zaltman and Zaltman 2008). For example, Nelson and Simmons (2009) demonstrated that consumers' judgments of travel time, ease and costs are all affected by the metaphoric relationship between cardinal direction (i.e., north and south) and vertical position (i.e., up and down). Using a metaphor that links the thermal concept, 'hot', and impulsivity, Ahn (2012) showed that hot temperature primes as well as hot ambient room temperature affect consumers' impulsive behaviors. These findings lend support to the notion that the impact of metaphoric usage of language on consumer judgment and decision-making is an important and relevant topic for marketing/consumer research.

Based on these findings, this exploratory study examines the metaphorical similarities and differences of the two thermal concepts, hot and cool, and to propose a theoretical model that examines how these thermal concepts influence the value of the product which in turn, impacts consumers' purchase behavior. In this article we focus on the metaphors involving thermal concepts such as 'hotness' and 'coolness' for two reasons: (1) Temperature and weather related words are ubiquitous and familiar to consumers (Ahn 2012). This implies that thermal concepts such as 'hot' or 'cool' can be used successfully in marketing with a relatively large impact on consumers' judgments and decision making, especially their purchase behavior, and (2) The thermal concepts such as 'hot' and 'cool' have

very rich associations regarding perceived value of the product, which may affect consumers' attitude and behavioral intention toward products. This enables marketers to have flexibility in using these concepts as marketing tools.

To achieve our objective, we conducted a structured survey which was intended to identify associations of the thermal concepts of 'hot' and 'cool' and identified differences and similarities between the two concepts. In addition, we performed exploratory interviews with young consumers. Based on the results from the survey and interviews, we developed a theoretical model that examines the impact of thermal metaphoric concepts on purchase behavior in the new product adoption context. We propose this model to guide subsequent empirical studies related to the effectiveness of the thermal concepts as marketing tools in retail environments. Finally we discuss how our proposed model can be used as an example of designing future empirical studies.

## II. THE SUMMARY OF EXPLORATORY RESEARCH

In order to examine the two overlapping, but contrasting metaphoric concepts, hot and cool, we built a survey that consisted of nine questions. We administered the survey to fifteen undergraduate and graduate students, ages ranging from twenty-two to thirty-eight. However, one participant misunderstood the questions and provided irrelevant answers, leaving us the effective sample size of fourteen. With

fourteen surveys answered, we built a database that summarizes both common and unique responses to the survey questions for further content analysis.

We also interviewed the survey respondents whenever we needed to clarify the meaning of their responses or to gain further insights into the two thermal concepts. The purpose of the exploratory research is to clarify consumers' perception towards the metaphoric languages, hot and cool, and to examine the impact of such perception on purchase behavior outcomes in the marketing context. To achieve this goal, we thoroughly examined and analyzed the database regarding (1) subjects' perception of the metaphors, hot and cool, and (2) their perceptual similarities and differences between the two, and (3) the potential impact of these metaphors on behavioral outcomes.

### **1. Participants' perception of the metaphors**

In order to clarify the metaphoric concepts of hot and cool, we asked respondents to participate in a word association test that requires respondents to express all words related to each concept. The dominant expression of "hot" included (1) something latest, (2) most famous, and (3) yet short-lived. Words frequently correlated with "hot" were: (1) popular, (2) status symbol, (3) trendy, (4) new, and (5) short term. In this association test, the majority of participants used the terms, popular and momentary, and two of them wrote down 'fad' directly. One participant noted about the concept of hot as follows: It is "like leopard prints, trendy [and popular] but won't necessarily last long". Eleven out of fourteen participants related "hot" to some sort of fashion items; designer clothes,

watches, cosmetics, and hair products. The newest technological products were also viewed as "hot" products by some participants.

In contrast, the general perception towards "cool" appeared to be something worthwhile to have that can be personalized. Most commonly associated adjectives for "cool" were (1) personal, (2) worthy, (3) high-tech, (4) innovative, (5) trendy, (6) sleek, and (7) long term in this order. Trendy and sleek, however, were frequently followed by an additional explanation, "to my taste". One subject explained, "A product can be specifically cool to my tastes and preferences". Majority of the subjects viewed cool as a word that is used to describe technology-based products, such as computers, TVs, and smartphones. "I think of a bunch of young twenty-something professionals carrying around Apple products," said another participant portraying a scene for which one would use the word 'cool'.

### **2. Similarities and differences between hotness and coolness**

From the database, the similarities between hot and cool were hard to notice at first glance. Nevertheless, this does not mean that both concepts share nothing in common. Although the majority of the participants viewed the two metaphors with distinction, they were not able to avoid using multiple common terms in describing hot and cool. Common terms that appeared both in the descriptions of hot and cool were trendy, great to have, and worthy, which mean that both concepts represent "keeping up with a trend with added value". Though few, two subjects even explicitly stated that hot and cool are

interchangeable.

On the contrary, differences between the metaphorical expressions, hot and cool, were conspicuous in two areas: value and duration. “Cool [indicates] something that is valuable for a reason, [whereas hot indicates] something valuable because a lot of people are buying into it,” mentioned one subject. Both hot and cool items were viewed worthy, but the reason for its value differed. More critical difference appeared, however, in duration. Subjects regarded hot as a temporary quality. “It is a fleeting thing. It won’t be hot for much longer,” was one of the participants’ responses in the survey. In contrast, participants considered cool as a timeless quality. One suggested that a cool product is, “something that has been in the market longer and has outlasted others that faded in popularity”.

In sum, the concept of hotness includes the meaning of popularity (sold well) with status symbol, but it means lasting only for the short time period. In contrast, the concept of coolness represents new and innovative, and high-tech-related and sleek, and it indicates lasting in the long run.

### III. THEORETICAL MODEL

Contrary to our general belief that the two words, cool and hot, will be distinctively different from each other, the words hot and cool seem to have an ambiguous boundary. One actually pictured hot as “cool’s maximization” or it can be viewed as successful cool concept with commercial success with popularity. Also, though impressions from hot and cool differed, the terms used in describing their

impressions overlapped quite often.

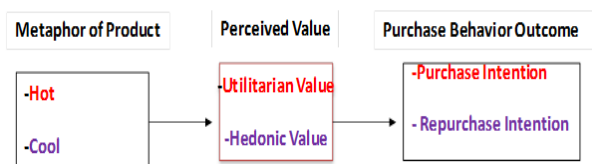
A large majority held the idea that cool is used more with innovative, technological items. In contrast, for the word hot, participants provided a variety of opinions. The most often mentioned products were fashion items, not technology related items. Also, many mentioned that no matter which product items, “if they are new and popular, they are hot”.

Those participants who preferred hot over cool viewed the word cool either as old fashioned or an antecedent to hot. “Five different brands of jeans can be cool but that one designer pair can be hot,” said one of the participants comparing the two metaphors. On the other hand, those who preferred cool over hot considered hot as something that simply has high demand with popularity, but nothing much exciting. According to them, hot is a fleeting phenomenon in a short term, whereas cool is a timeless honor in the long run.

Surprisingly, eleven out of fifteen participants preferred buying a product that is cool to buying a product that is hot. Their reasons for the preference of cool over hot include a fad, personally enjoyable, long lasting, and beneficial. This result may be attributed to the fact that the majority of participants are young and they care more about the image of products, without concerning too much about the high demand for the products. Although the overwhelming majority preferred the word cool, only four participants said that cool is used more frequently than hot when describing a product. Hot’s associated image of being “popular” and “new” is suggested as the reason for their responses.

Applying our exploratory interview results to the

product management, we developed a conceptual model that explains how cool and hot products based on metaphoric concepts, influence the two types of product value (hedonic and utilitarian), which eventually impacts two types of behavioral outcomes (purchase intention and repurchase intention). Figure 1 describes the model. In this model, we posit that consumers' assessment of a product's metaphoric thermal concepts, determines their purchase behavior, mediated through the perception of the product value. The model adopts two purchase behavioral outcomes, purchase intention and repurchase intention, as the final dependent variables because they typically predict a product's adoption and sales, ultimate outcomes desired by marketers. The mediating role of perceived value is important because consumers are not motivated to purchase a product by metaphoric concepts per se, but they adopt a product when they find it valuable due to the thermal metaphors.



**<Figure1> Proposed Theoretical Model of Hot and Cool Products**

In the proposed model, we propose a dual route model where consumers' two metaphors of products, hot and cool, influence their two perceived values, utilitarian and hedonic, which differentially influence two purchase behavior outcomes, purchase intention and repurchase intention, respectively.

In one route, we predict that a hot product with high level of popularity provides utilitarian value

which is associated with a product's functional, instrumental or practical benefits (Chitturi, Raghunathan, & Mahajan, 2008, Dhar & Wertenbroch 2000, and Voss et al. 2003). This may in turn improve consumers' purchase intention within a short period of time. In another route, we expect that a cool product with high level of excitement is likely to offer hedonic value that reflects the product's aesthetic, experiential or sensory benefits. The hedonic value would eventually improve consumers' repurchase intention of the product in the long run.

## IV. CONCLUSIONS AND FUTURE RESEARCH

### 1. Summary of findings

Through this project, we were able to make propositions regarding consumers' perceptions towards the metaphorical words, hot and cool. Even though both thermal metaphoric concepts have overlapping meanings such as trendy, great to have, and worthy, each has its respective images and meanings, which are yet to be distinctly developed. Based on the results from the interviews with consumers, we first contributed to the identification of metaphorical similarities and differences between the two related, but distinct thermal concepts of hot and cool.

### 2. Theoretical and managerial implications

As the results indicate, the two concepts may

have differential effects on purchase behavior outcomes. Thus, we further developed a theoretical model that focuses on the impact of consumer's hot and cool metaphors on the product purchase behavior. Although this proposed model needs to be tested through further empirical research, the model does offer insights regarding the mediating role of perceived value of the thermal metaphors in determining consumers' purchase or repurchase intention.

Aside from the theoretical significance of the proposed model, the results may have some marketing implications in retail environments if our propositions bear out empirical verification. For example, marketers who intend to facilitate consumers' trial of a product may be better off using point-of-purchase (POP) advertising that triggers the concept of 'hot' (e.g., ads with red color, fire, or words that evoke hotness) in a retail store. In contrast, those who desire to heighten consumers' repurchase intention might want to use POP advertising that is likely to evoke the concept of 'cool' (e.g., ads with blue color, ice, or words that evoke coolness).

### 3. Limitations and directions for future research

We propose our model as one example of how we can apply the findings from the thermal metaphor research to retailing and product development in future research. In future research, it is worth investigating whether the thermal metaphors can influence customers' store loyalty in a retailing environment. Through further studies, we will be able to find the ways to enhance the effects of the

metaphorical expressions, hot and cool, in the field of retailing and product development.

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## 유통환경에서 온도와 관련된 은유가 소비자의 구매행동에 미치는 영향\*

임수빈\*\*, 안희경\*\*\*, 하영원\*\*\*\*

### ABSTRACT

은유적 표현과 그 연상이 소비자의 판단과 의사결정에 미치는 영향에 대한 최근 연구들이 있음에도 불구하고 온도와 관련된 은유적 표현에 대해서 소비자들의 어떻게 반응하고 차별적인 연상을 가지고 있는지에 관해서는 많은 연구가 수행되지 않았다. 본 탐색적 연구에서는 ‘뜨거운’ 또는 ‘차가운’ 과 같이 온도와 관련된 표현이 주는 은유적인 의미의 유사점과 차별점을 규명하고 그러한 은유적인 의미들이 소비자가 제품의 가치를 평가하는 것에 어떠한 영향을 미칠 수 있는지를 살펴보고자 한다. 저자들은 설문조사와 탐색적 인터뷰 기법을 통한 자료를 바탕으로 소매점에서의 제품 채택과 관련된 맥락에서 온도와 관련된 은유적 의미가 구매행동에 미치는 영향에 대한 개념적인 모형을 개발하였다. 본 연구에서 제안하는 개념적 모형은 향후 온도와 관련된 은유적 표현이 소비자의 의사결정에 미치는 차별적인 영향에 대한 실증연구를 수행하는데 지침이 될 수 있을 것으로 기대된다.

주제어 : 온도, 은유, 제품채택, 탐색적 연구

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