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### Combining metaphors and gain versus loss framing to enhance the efficiency of persuasive communications

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## **Combining metaphors and gain *versus* loss framing to enhance the efficiency of persuasive communications**

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### **Abstract**

**Literature on linguistic highlights that metaphors can be either particularizing or generalizing (Eco, 1988) placing the reader in either a concrete or an abstract mindset. Effectiveness of gain *versus* loss framed messages has been proven to be dependent on state of mind (White et al., 2011). Thus, we hypothesize and demonstrate, through two empirical studies, that metaphors efficiency depends on whether they are associated with gain or loss framed messages. Moreover, the ease of processing mediates the influence of metaphors on behavioral intentions.**

*Keywords: Metaphor, Loss versus gain framing, Persuasive communication, Level of processing*

*Track: Advertising, Promotion and Marketing Communications*

## **1. Introduction**

The world of marketing is full of metaphors with expressions such as "brands are *fighting* in an *aggressive* marketplace in which one must create persuasive promotional *campaigns* to *defend* its positions, *win* customers' *heart* and resist the *price war*."

A metaphor is a rhetorical figure, which transposes the meaning of a signifier to another by analogy. Like all figures of speech - such as metonymy, litotes, or euphemism – a metaphor is based on a substitution process. In this process, a figurative expression replaces the expected one. Metaphors are often used in advertising to enlarge a concept and enrich its meaning. In the slogan "*Badoit makes your meals sparkle*", the brand implicitly transfers the properties of Badoit water bubbles (vividness, speed) to the mood of the guests around the table (cheerfulness, enthusiasm, fun). To capture the meaning of a metaphor one needs to recreate a link between two different semantic networks. Hence, the metaphor is often associated with symbolic activity, and by analogy with abstract thinking (Lakoff and Johnson, 1980).

However, if understanding a metaphor requires processing information, it does not necessary imply a high level of elaboration at an abstract level. Abstract thinking is, as opposed to concrete thinking, detached from direct physical experience. For example, at an abstract level "recycling" can be conceptualized in terms of future implications for the society as a whole, while at a concrete level it can be conceptualized in terms of separating wastes (White et al, 2011).

In fact, some metaphors rely on concrete objects in a very vivid way and close to sensory experience. Using this kind of metaphors creates a sense of concreteness. On the contrary, other metaphors don't use images and/or are detached from physical experience. Using this kind of metaphors creates a sense of abstractness. Thus, the slogan "*Millions of teeth chose Freedent*" substitutes the expected expression ("millions of customers") for a concrete word related to the physical experience of brushing teeth. In contrast, when "Doctors Without Borders" NGO evokes paludism through the expression "a weapon of mass destruction that doesn't interest anybody", they substitute the mosquito for an abstract concept ("weapon of mass destruction"). We believe that there is often confusion between processing *level* - which refers to processing information with an abstract or concrete mindset - and processing *mode* – which refers to processing information with either a discursive or imagery mindset (Mac Innis and Price, 1987). The seminal work of rhetoric and philosophy of language seems to corroborate the existence of this confusion. Specialists indicate that metaphors can either leads to generalization or particularization in nature inducing an abstract or concrete thinking (Group  $\mu$ ; Eco, 1988).

It is of paramount importance to better understand how metaphors can induce a high or low *level* of elaboration (concrete *versus* abstract). A very recent research has shown that advertising effectiveness was enhanced when the message was adjusted depending on the mindset (concrete *versus* abstract) of the reader. When readers are placed in a concrete mindset, then a loss frame (risks to be avoided if the product is chosen) is more efficient than a gain frame (benefits to be earned if the product is chosen). The results are reversed when readers are placed in an abstract mindset (White et al, 2001; Nenkov, 2012).

Given the major role played by the mindset (abstract or concrete) for advertising effectiveness, it is essential to study whether metaphors commonly used in advertising naturally leads to abstract thinking or, as analyzed by linguistic specialists (but contrary to prevailing ideas), some may stimulate concrete processing. If it can be shown that certain metaphors place the readers in a concrete mindset it will provide a useful tool for experimental stimuli. So far, operationalizing level of elaboration is handled through

modification of time horizon (short term *versus* long term) or through why *versus* how framing. "Why" focusing on desirability leads to a more abstract mindset than "how" focusing on feasibility. If metaphors can be used it opens up new perspectives for experimental research on the treatment of advertising information.

The difficulty with this type of study lies in the operationalization. Indeed, the concrete or abstract mindset cannot be measured directly because individuals are not aware of their processing level. Therefore, to validate our hypothesis, we rely on earlier researches regarding effectiveness of gain *versus* loss framing. These studies indicate that messages focusing on gains (losses) are more easily processed and generate more favorable intentions when they are associated with an abstract (concrete) mindset (White et al, 2011).

We develop advertising campaigns with either "gain" or "loss" frames and compare their effectiveness depending on whether they are associated with metaphors leading to "generalization" or "particularization". If readers are more likely to act with "gain" (loss) frames associated to a metaphor leading to "generalization" (particularization), we will conclude that the metaphor has placed the reader in an abstract (concrete) mindset.

## **2. Conceptual background**

### **2.1. Processing level and metaphors**

In the 2000s, research on metaphorical thinking regained interest and several recent studies analyze the impact of metaphors used in advertising and consumption contexts. In October 2012, an article in *Journal of Consumer Research* titled "Meat Is Male?" empirically demonstrates that there is a metaphorical link between meat and masculinity. However, the majority of research on metaphors goes back to the 50s, with authors such as Roland Barthes or Jakobson. They argue that any advertising discourse is driven by the desire to persuade, and for that purpose metaphors are particularly suited because they can enliven and enrich messages.

Returning to the foundations of rhetoric, including the work of Aristotle (384 BC. - 322 BC.), extended by the work of linguistic specialists ("μ group") and Eco (1988), metaphors can be either generalizing or particularizing. According to the "μ group", substituting a term for a particularizing metaphor makes the speech more concrete while substituting a term for a generalizing metaphor makes the speech more abstract. With this line of reasoning, signifiers are hierarchically organized following the "tree of Porphyry": elements at the top of the tree are the most abstract (they can refer to several meanings) and elements at the bottom are the most concrete (they can refer to only one meaning). Generalizing or particularizing refers to the direction in which the tree of Porphyry must be run through to give meaning to the rhetoric. The presence of a generalizing or particularizing metaphor induces a more or less abstract mindset. The larger the number of nodes between two semantic terms, the stronger the generalization (upward) or particularization (downward) is.

### **2.2. Processing level and gains versus losses framing**

Since the 70s and the work of Tversky and Kahneman, research on the effectiveness of gains or losses framing are numerous and sometimes contradictory. Researches show that gains framed messages are more persuasive in conditions of high involvement (Maheswaran and

Meyers-Levy, 1990), high perceived risk (Meyers-Levy and Maheswaran, 2004) or deep processing of information (Block and Keller, 1995). Recently, White et al. (2011) have attempted to shed light on this debate by introducing the importance of the level of processing (concrete *versus* abstract). Using a campaign to promote recycling, the authors show that a loss (gain) framing is more efficient when readers conceptualize recycling behavior in a concrete (abstract) mindset. They show that the losses are more easily processed if the player is in a concrete mindset. The ease of processing has a positive effect on behavioral intentions because it improves perceived self-efficacy (White et al, 2011). Self-efficacy is a situational belief in one's capacity to solve a problem (Wood and Bandura, 1989, p. 408). Thus, a message is effective if the reader believes that he can work out a solution. Conversely, if he considers that he is unhelpful the message will be rejected via defense mechanisms (denial, questioning the credibility of the source).

### **3. Hypothesis**

Building on the seminal work of rhetoric, we assume that, contrary to the general assertion, the metaphor can also be particularizing and lead the reader to conceptualize the message in a concrete way. According to White et al (2001), a concrete (abstract) mindset increases the efficiency of losses (gains) framed messages. We therefore have the following hypotheses:

*H1a: A particularizing metaphor leads to higher behavioral intention when it is associated with a loss framed message (compared to a gain framed message)*

*H1b: A generalizing metaphor leads to higher behavioral intention when it is associated with a gain framed message (compared to a loss framed message)*

Moreover, White et al (2011) showed that behavioral intentions depend on the ease of processing because it reinforces perceived self-efficacy. Hence, they demonstrate the mediating effect of self-efficacy. We thus hypothesize that ease of processing will mediate the effect of the metaphor (generalizing or particularizing) on the intention to act:

*H2a: A generalizing metaphor is easier to process when associated with gain framed message (compared to a loss framed message)*

*H2b: A particularizing metaphor is easier to process when associated with loss framed message (compared to a gain framed message)*

*H3: Ease of processing mediated the relationship between rhetorical figures and behavioral intentions*

### **4. Methodology**

Our goal is to show the effect of metaphors depending on whether they lead to a concrete or abstract mindset. We developed campaigns focusing on either gains or losses and measured effectiveness of these campaigns when message is associated with either generalizing or particularizing metaphors. If readers are more likely to act when loss (gain) framing is associated with a particularizing (generalizing) metaphor, then we can deduce that the metaphor has placed them in a concrete (abstract) mindset.

We chose to operationalize our research in the context of social marketing campaigns. These campaigns seek to persuade people to adopt behaviors that benefit society as a whole (e.g. protection of the environment, fight against poverty, road safety etc.). The stakes are high: these campaigns must persuade the readers to change their behavior while they are not necessarily the sole or direct beneficiary. Two alternatives are then available to be persuasive:

highlight the potential losses incurred if the promoted behavior is not adopted or rather the potential gains if the behavior is adopted. The question is, for example, whether a screening campaign for breast cancer should present risks if women refuse being tested or present potential gains if they agree.

#### 4.1 Study 1: Effect of the metaphor on behavioral intentions

##### *Creation of stimuli*

For this first study, we chose a communication campaign for a humanitarian cause. To manipulate the level of processing, we make a substitution of terms by using a metaphor either generalizing or particularizing. To convince the reader to participate in humanitarian action for schooling in Burma (supported by a benevolent association) and allow children to "go to school", we present either a generalizing metaphor (allow children to "develop their *mental abilities*") or a particularizing metaphor (allow children to "learn to *read, write and count*"). The framing (gains *versus* loss) is manipulated by either presenting the benefits of participating ("you offer hope") or the negative consequences of not participating ("You deprive of hope").

##### *Study Design*

We implemented a between-subjects experiment with a 2 (Generalizing *versus* Particularizing) X 2 (Gains *versus* Loss) design. 79 business students were randomly assigned to one of the 4 conditions (between 19 and 21 respondents per condition).

##### *The measure used*

The intention to adopt the proposed behavior (to participate in and support the benevolent association) was measured by the item "I intend to participate to the proposed action".

##### *Results*

The results (Table 1) show that a *generalizing* metaphor ("Develop **mental abilities**...") increases intention to participate when the message is *gain* framed versus loss framed ( $p = 0.000$ ), which validates H1a. However, a *particularizing* metaphor ("learn to **read, write and count** ...") increases intention to participate when the message is *loss* framed versus gain framed ( $p = 0.041$ ), which validates the hypothesis H1b.

	<i>Generalizing</i> metaphor	<i>Particularizing</i> metaphor
<i>Gain</i> framing	4,05 (1,31)	1,85 (1,09)
<i>Loss</i> framing	2,29 (1,23)	2,68 (1,38)

**Table 1. Mean (standard deviation) of the intention to participate for each condition**

The results of this first study are consistent with our assumptions and confirm that metaphors can either place the reader in concrete or abstract mindset. We wish to replicate our results in a different setting. Moreover, we have seen in the literature review the important role that could be played by the ease of processing and we want to verify its mediating effect. Study 2 will allow for verifying the mediating effect.

#### 4.2. Study 2: Mediating effect of ease of processing

##### *Creation of stimuli*

In the second study, we chose a social marketing campaign for the protection of the environment. To manipulate the mindset we use either a generalizing or particularizing metaphor. To encourage adoption of a green washing machine and protect the environment, we present either a generalizing metaphor ("join our **action** against pollution") or a

particularizing metaphor ("join our **walk** against pollution"). The framing (gains *versus* loss) is manipulated by the title either in a positive formulation ("You may save the planet by saving water") or a negative formulation ("you may destroy the planet by wasting water.")

### *Study Design*

We implemented a between-subjects experiment with a 2 (Generalizing *versus* Particularizing) X 2 (Gains *versus* Loss) design. 78 business students were randomly assigned to one of the four conditions (between 19 and 20 respondents per condition).

### *The measures used*

The intention to adopt the proposed behavior was measured by the item "*I intend to buy the washing machine.*" Ease of message processing was measured by: "*This message is easy to follow.*"

### *Results*

The ANOVA (Table 2) shows that a generalizing metaphor ("Join our **action**") increases intention to purchase when it is associated with a gain framed message compare to a loss framed message ( $p = 0.050$ ). Conversely, a particularizing metaphor ("Join our **walk**") increases intention to purchase when it is associated to a loss framed message compared to a gain framed message ( $p = 0.015$ ). So H1a and H1b are validated.

	<i>Generalizing</i> metaphor	<i>Particularizing</i> metaphor
<i>Gain</i> framing	4,85 (1,71)	4,00 (1,02)
<i>Loss</i> framing	3,89 (1,59)	5,15 (1,46)

**Table 2. Mean (standard deviation) of the intention to purchase for each condition**

We also want to verify the influence of ease of processing. The ANOVA shows that a *particularizing* metaphor is easier to process when it is associated with a *loss* framed versus a *gain* framed message ( $p = 0.054$ ). Conversely, a *generalizing* metaphor is easier to process when it is associated with a *gain* framed versus *loss* framed message ( $p = 0.048$ ). We can validate hypotheses H2a and H2b.

Furthermore, we verify the mediating effect of ease of processing. To that end, we conducted a test of the indirect effect using a "bootstrap" analysis (Preacher and Hayes, 2008) based on an SPSS macro combining a Sobel test and step by step process. Bootstrap is set at 5.000 and confidence interval at 95%. The results show that the confidence interval does not contain zero (CI: - 0.155 - 0.035) and thus allow to validate H3: ease of processing has a mediating effect on the relationship between the condition and behavioral intention.

## **Conclusion**

This research complements existing researches on the effectiveness of gain versus loss framing. In a recent experience completed by White et al (2011), the authors use a generalizing substitution "recycling" (not a particularizing term such as "waste separation"). However, a picture with a family in front of a sorting bin is present – and not with recycling operations such as grinding or chemical treatment of waste. Would the results have been the same if a particularizing term was used in the experiment?

We discuss the effect of metaphors from a cognitive perspective by studying how they place the reader in a certain state of mind. This approach is quite innovative compared to extensive research on metaphors studying the influence of metaphor on persuasion through a purely emotional approach. We have measured in our two studies, the impact of each message on emotions. These measures indicate that emotions have played a role in one condition of Study

1, but not in Study 2. This leads us to believe that future research could be designed to clearly separate the emotional influence and the cognitive influence of metaphors.

However, this study presents some limitations. We use single-item measures which, even if they seem unambiguous ("intention to purchase", "intention to participate in") could question the content validity. The role played by placing the reader in a concrete or abstract mindset is inferred and not measured because of the difficulty for participants to evaluate their mindset. Hence, we deduce from previous researches that our effects can be explained by the mindset. The results are based on small samples (between 19 and 21 respondents per condition) and a validation with a larger sample would be needed.

In future research, it will be interesting to verify the generalizability of our results to other types of metaphors such as olfactory, musical, or through images.

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