

Dishi Gupta | H00MACL202100061

Dr. Atreyee Sharma

LS 288 - Human Sentence Processing

LINGUISTIC AMBIGUITIES IN HINDI METAPHORS AND IDIOMS

It is a common contention that most literal terms are ambiguous and are only disambiguated in the context of a sentence. As a complement to this view, however, we also find the claim of the context independence of literal language at the sentential level. Only in a few cases is the literal sentence, not a sufficiently rich context for disambiguating the terms comprising the sentence, and only in such cases will we need to address the extra-sentential context.

This paper examines the comparative usefulness of seeking to explain metaphor through the notions of ambiguity and vagueness. I argue that, despite long-standing attempts to explain metaphor as a species of ambiguous language, all such attempts fail. I also argue that a less explored association, that between metaphor and vague language, can be exploited much more successfully in explaining a quite different aspect of metaphor--why speakers might choose that trope over literal utterance in everyday contexts.

The purpose of this essay is to argue that, though much of the voluminous literature on metaphor has been devoted to tracing its alleged ties to ambiguous language, those ties in fact can't be confirmed to exist--even when we take care to examine various types and sources of ambiguity.

I. Introduction

There are four types of ambiguities, which fall out from the fact that ambiguities can be planned or unplanned and covert or overt. Along with cataloging ambiguity by type, we can also catalog it by source: What can the ambiguity be specifically traced to?

1. syntactic or lexical ambiguity
2. ambiguity of illocution
3. ambiguity of perlocution
4. the ambiguity of use/mention

Either we may deny that metaphor can be ascribed a metaphorical meaning, as Donald Davidson proposes, or we may argue that metaphorical meaning is not determinate. The analysis of these two options will form the second and final part of my analysis and will lead to the view that metaphor exhibits rampant semantic ambiguity.

A. *Linguistic Ambiguity.* Linguistic ambiguity is the phenomenon of words, phrases, and sentences having multiple meanings. This can confuse if the speaker and the listener have different interpretations of the same statement. Ambiguity can arise from the context of a conversation, the grammar or structure of a sentence, and the individual meanings of words. Examples of ambiguous statements include: "*I saw her duck,*" "*I'd like a cup of coffee,*" and "*I'm feeling blue.*"

B. *Hindi language.* Hindi is an Indo-Aryan language spoken mainly in India, and also in Nepal, Singapore, and South Africa. It is the official language of India, along with English, and is one of the 22 official languages recognized in the Constitution of India. Hindi is written in the Devanagari script and is the fourth most spoken language in the world, with more than 258 million speakers. It is estimated that around 500 million people around the world can understand and speak Hindi.

Hindi is the most commonly used language in India and its neighboring countries. It is widely used in newspapers, magazines, books, radio, television, and the Internet. It is also the official language of the Indian government and is used in official documents. Hindi is a direct descendant of Sanskrit and is closely related to other Indo-Aryan languages such as Punjabi, Gujarati, Marathi, Rajasthani, and Nepali. It is also influenced by Dravidian languages, such as Tamil and Telugu. The Hindi language is used in literature, poetry, film, music, and even advertising.

C. *Thesis Statement.* This thesis aims to investigate the linguistic ambiguities associated with Hindi metaphors and idioms. It will analyze the various aspects of these figures of speech, including their origin, usage in different contexts, and the semantic and syntactic complexities they bring to the language. It will also examine how these ambiguities are resolved within the language and the implications of this for the comprehension and interpretation of these figures of speech. Finally, the thesis will explore the implications of these linguistic ambiguities for the study of Hindi as a language, and for the development of Hindi as a spoken and written language.

II. Metaphors

Metaphors are comparison figures of speech that link two ideas, concepts, or objects together. They can be used to create vivid and imaginative images in the mind of the reader or listener. Some examples of metaphors include

1. Time is a thief, stealing away our days.
2. Life is a journey, with twists and turns along the way.
3. Success is a mountain, requiring hard work and dedication to climb.
4. She is a butterfly, fluttering in the breeze.

A. *Examples of metaphors in Hindi.* Hindi metaphors are figures of speech used to express an idea or emotion indirectly. They are derived from the Hindi language and use imagery and symbolism to convey a message or concept. Examples of Hindi metaphors include “aapki shaan hai” (you are my pride) and “aankhon mein aansu hain” (there are tears in the eyes). Some more examples look like:

1. सितारे हैं चाँद की आँखें - *Stars are the eyes of the moon*
2. प्रेम मेरा सफर है - *Love is my journey*
3. तिरंगा मेरा प्यार है - *The tricolour is my love*
4. उसका स्वर्ग है उसकी आँखों - *His eyes are his heaven*
5. समुद्र मेरा राजा है - *The sea is my king*

B. *Explanation of how metaphors can be ambiguous.* Metaphors can be ambiguous because they rely on implicit meaning. They require readers or listeners to make connections between two concepts that are not necessarily directly related. This can lead to multiple interpretations depending on the individual's background and experience. In some cases, this ambiguity can be used to create a sense of mystery or complexity. In other cases, it can lead to confusion and miscommunication.

Metaphors are a figurative language that does not always provide a literal interpretation. While metaphors can be interpreted in many different ways, the intended meaning is often unclear. This ambiguity can leave readers and listeners to interpret the metaphor in whatever way makes the most sense to them.

III. Idioms

Idioms are expressions, words, or phrases that have a figurative meaning that is different from the literal meaning. They are used in everyday conversational English and are often expressions that cannot be taken literally. Idioms are often used to express emotions more vividly and can also be used to add humor to a conversation. Some examples of idioms are:

1. Bite the bullet
2. Cost an arm and a leg
3. Let the cat out of the bag

A. *Examples of Idioms in Hindi.* Hindi idioms are phrases or expressions that have a figurative, non-literal meaning. They are usually derived from stories, proverbs, and other traditional sayings and have been passed down for generations. Common Hindi idioms are used to express emotions, give advice, and emphasize points. Examples include "गुजरा हुआ फूल फिर नहीं उगता" (A flower once gone never returns) and "बहुत कुछ सोचना नहीं होता" (Don't think too much).

1. गुनाही का सागर: A sea of guilt
2. सुनहरा कश्मीर: A golden Kashmir
3. अनुग्रह का मेहनती पंखा: A hardworking peacock of humility

4. कामयाबी का प्रकाश: A ray of success

5. असफलता की पहाड़ी: A mountain of failure

B. *Explanation of how idioms can be ambiguous.* Idioms are phrases that have a figurative meaning, and they can often be ambiguous because they can mean different things to different people. For example, the phrase “it’s raining cats and dogs” can mean that it’s raining very heavily, but it could also mean that it’s raining animals. Similarly, the phrase “give someone the cold shoulder” can mean to ignore someone or reject them, or it could mean to serve someone cold food. This ambiguity can be confusing for people who are unfamiliar with idioms or are learning a new language.

IV. DMDX

DMDX is a research tool designed for the collection and analysis of response time data in psychology experiments. It is a Windows-based program that can be used to measure reaction time in a wide range of psychological tasks, such as lexical decision, recognition memory, visual search, and categorization.

DMDX is the most commonly used response time software in the field of psychology and has been used in a variety of experiments. It has features for detailed data collection and analysis, including the ability to calculate response times, accuracy rates, and other parameters. DMDX can also be used to create custom experiments, allowing researchers to design their tests and collect data in a controlled and reliable manner.

V. Methodology

A. *Type of Research.* The research is quantitative. Its objective is to examine the reaction time (or decision time) of people from different linguistic regions of India, who are proficient in the Hindi language to various degrees, and record how the ambiguities play a role in their perceptions of metaphors and idioms. Based on the available data analysis will be used to conclude.

a. *Problem Statement.* Given that there are subjects who have varying degrees of proficiency in English and are from different linguistic backgrounds:

- i. their proficiency level needs to be classified to assess whether or not the subject who is more/less proficient in the language will be able to/will not be able to engage with multiple meanings of the ambiguous word (i.e.: ambiguity tolerance–intolerance),
- ii. their reaction time (or decision time) also needs to be evaluated since it is a good indicator of the performance of an individual and will help us sense ambiguity tolerance–intolerance (e.g.: those who take longer to make a judgment will more likely satisfice),
- iii. and finally with the aid of visualizations of the collected data analysis needs to be done to see if the hypothesis is justified or not.

B. Data Collection Process.

- a. *Proficiency Classification.* Proficiency levels in Hindi were classified using the ILR (Interagency Language Roundtable) scale which ranges from 0 to 5 as follows:

Interagency Language Roundtable Scale	
Scale	Level
0	No proficiency
1	Elementary proficiency
2	Limited working proficiency
3	Professional working proficiency
4	Full professional proficiency
5	Native or bilingual proficiency

Experiment. The main source of data was the experiment in which sentences with ambiguous metaphors and idioms, along with filler sentences that too have ambiguous idioms. The sentences had 2 interpretations; literal and metaphorical. The participants could choose all, a few, or one of the interpretations as an appropriate interpretation; according to their choice.

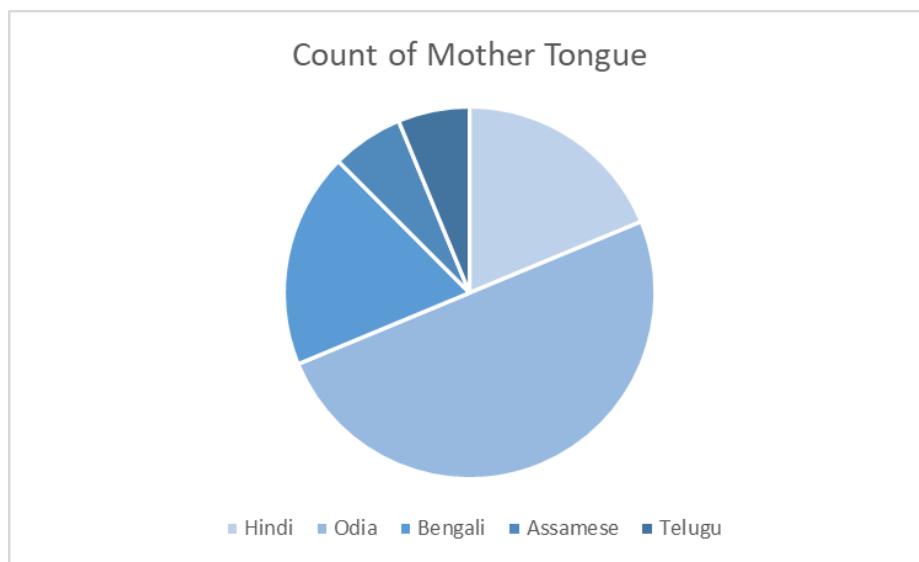
The steps for the construction and execution of the experiment were as follows:

1. A rich text file was created.
2. The file was then scripted with sequences of instructions that told DMDX:
 - 2.1. What stimuli should be presented,
 - 2.2. How long should the stimuli be presented for,
 - 2.3. What kind of response to anticipate in response to a stimulus, and
 - 2.4. Order of items.
3. The rich text file or the item file was run on DMDX initially to check for errors
4. Once the errors were handled preparations for the experiment began
5. The experiment began by running the rich text file on DMDX

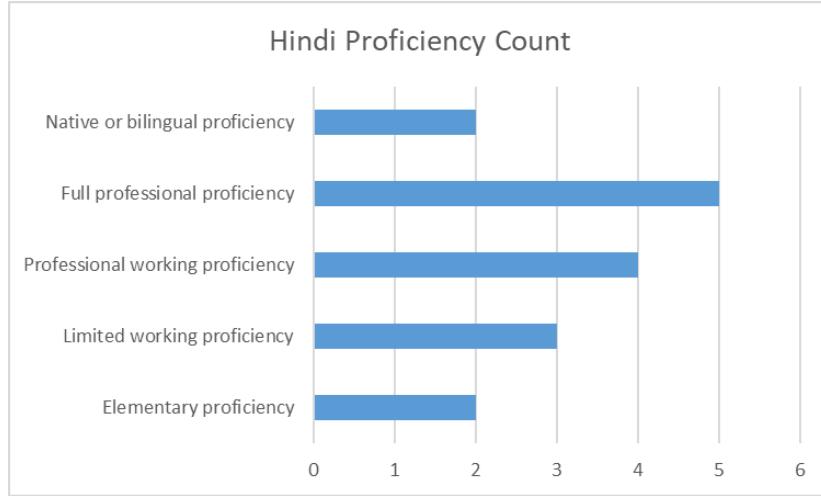
6. The participant was left to make the most probabilistic assumption.
7. When the experiment ended DMDX automatically saved the responses and the RT in an output file.
8. Steps 5-7 were repeated for each participant.

C. Test Construction. The main source of data was the experiment in which sentences with metaphors and idioms were used along with filler sentences that have ambiguous nouns and verbs. The sentences had 2 interpretations. The participants could choose all, a few, or one of the interpretations as an appropriate interpretation; according to their choice.

D. Participants. A total of 16 individuals participated in this study, all female participants. 3 participants mentioned Hindi as their mother tongue, 8 mentioned Odia as their mother tongue and 3 mentioned Bengali as their mother tongue, and 1 mentioned Assamese as their mother tongue and again 1 mentioned Telugu as their mother tongue.



11 of the participants had native or bilingual level fluency in Hindi- 5, 4 had full professional proficiency - 4, 4 participants had professional working proficiency - 3, and 3 participants had limited working proficiency - 2.



E. Control Factors. The elements that remained constant throughout the experiment were the ambiguous metaphors and idioms in the main test sentences. All possible distractions and any electronic devices (other than the device in which the experiment was being carried on) were removed from the environment of the participants.

Before the experiment, participants were told that they could choose more than one option if they wished to and that there were no right or wrong choices. This was done to ensure, even the individuals with lesser proficiency in Hindi, that a sentence could have more than one meaning. The purpose of the aforementioned instruction was to mentally prepare and reduce the anxiety of the participants with lesser proficiency.

F. Script Design.

a. Instructions.

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<azk> <t 90000> <id keyboard> <nfb> <dbc 255255255> <dwc 0>
<rcot> <cr> <vm desktop>

0 "निर्देश: ";

0 "वाक्यों को निम्नलिखित स्क्रीन में प्रदर्शित किया जाएगा।",
<In 2> "वाक्य के आधार पर दो व्याख्याएं प्रदर्शित की जाएंगी।",
<In 3> "यदि आपको लगता है कि प्रदर्शित वाक्य सही है, तो राइट शिफ्ट (RIGHT SHIFT) दबाएं।",
<In 4> "यदि आपको लगता है कि प्रदर्शित वाक्य गलत है, तो बायाँ शिफ्ट (LEFT SHIFT) दबाएं।",
<In 5> "स्पेस (SPACEBAR) दबाएं।";

0 "प्रदर्शन शुरू करने के लिए स्पेस (SPACEBAR) दबाएं।";

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b. Dummy Test Sentences

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+1000 "जो करता है, वही जानता है।".*;
+1 "जो करता है वही जानता है।".*;
+2 "वही जानता है जो नहीं करता है।".*;
+1001 "आम बहुत खट्टा है।".*;
+1 "आम स्वाद में बहुत मीठा है।".*;
+2 "आम स्वाद में बहुत खट्टा है।".*;
+1002 "घोड़ा तेज दौड़ता है।".*;
+1 "घोड़ा लंगड़ते हुए तेज़ दौड़ता है।".*;
+2 "घोड़ा तेज़ दौड़ता है।".*;

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c. *Test Sentences*

- +3000 “परीक्षा खत्म होने के बाद घोड़े बेचकर सोना है।”*;
- +1 “परीक्षा समाप्त होने के बाद मैं घोड़ों को बेचकर सोऊंगा।”*;
- +2 “एक बार परीक्षा समाप्त हो जाए, मैं पूरी तरह तनाव मुक्त होकर सोऊंगा।”*;
- +3001 “प्रतिभा दिन रात अपनी आंखे फोड़ती है।”*;
- +1 ”दिन-रात, प्रतिभा अपनी आँखों के टुकड़े करती रहती है।”*;
- +2 ”प्रतिभा दिन-रात बहुत कड़ी मेहनत करती है।”*;
- +3002 ”मेरे दादाजी का शहर से जी खट्टा हो गया है।”*;
- +1 ”मेरे दादाजी शहर से बीमार हैं।”*;
- +2 ”मेरे दादाजी को शहर में बहुत अलगाव महसूस होता है।”*;
- +3003 ”अजित विरोधियों से मिलकर मेरे गले पर छुरी चला रहा था।”*;
- +1 ”अजीत ने विरोधियों के साथ मिलकर मेरा गला काट दिया।”*;
- +2 ”अजीत ने विरोधियों के साथ मिलकर मुझे अत्यधिक हानि पहुँचाई।”*;
- +3004 ”निखिल सिर्फ गाल बजाना जानता है।”*;
- +1 ”निखिल सिर्फ गाल बजाना जानता है।”*;
- +2 ”निखिल को सिर्फ डींगे हँकना आता है।”*;
- +3005 ”यह उपाधि मेरी गाढ़ी कमाई है।”*;
- +1 ”यह उपाधि मेरी मोटी आमदनी है।”*;
- +2 ”यह उपाधि मेरी मेहनत की कमाई है।”*;
- +3006 ”कुछ लोगों को दूसरों पर कीचड़ उछालने में मजा आता है।”*;
- +1 ”कुछ लोगों को दूसरों पर कीचड़ डालने में मजा आता है।”*;
- +2 ”कुछ लोगों को दूसरों का अपमान करने में मज़ा आता है।”*;
- +3007 ”मोहन ने चोरी करके खुद पर धब्बा लगा लिया।”*;

- +1 "मोहन ने चोरी करके खुद पर स्याही का दाग़ लगा लिया।" *;
- +2 "मोहन ने चोरी करके खुद को कलंकित कर लिया।" *;
- +3008 "अरमान को उधार देकर मेरी गर्दन फँस गई है।" *;
- +1 "अरमान को उधार देने के बाद मेरी गर्दन अटक गई।" *;
- +2 "अरमान को उधार देकर मैं परेशानी में फँस गयी हूँ।" *;
- +3009 "पूतिन ने सब देशों को हराकर अपना डंका बजा दिया।" *;
- +1 "पूतिन ने सब देशों को हराकर अपना डंका बजाया।" *;
- +2 "पूतिन ने सब देशों को हराकर अपना अच्छा प्रभाव जमा दिया।" *

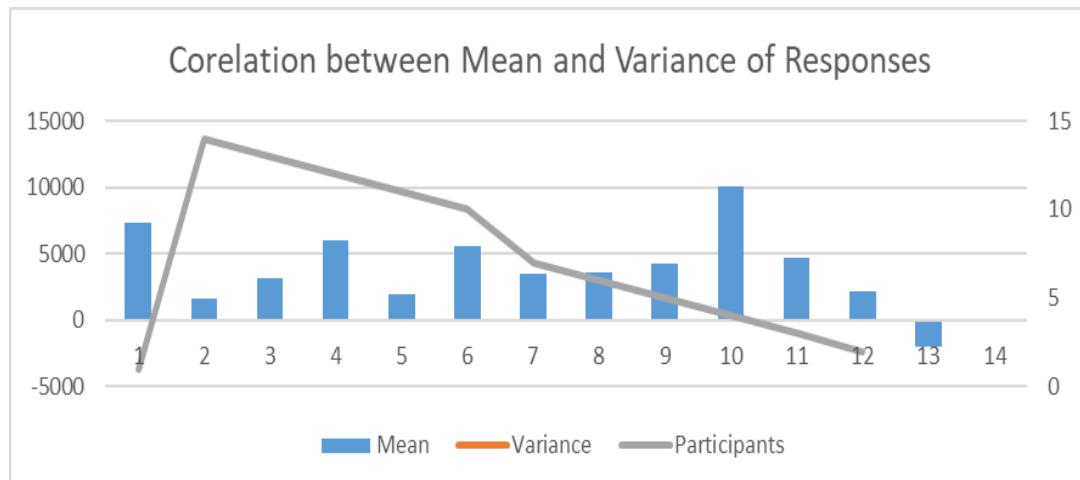
VI. Analysis

- A. *Explanation of how metaphors and idioms can be used to create ambiguity.* Metaphors and idioms can be used to create ambiguity by expressing a concept using words or phrases that are figurative, abstract, or have multiple meanings. For example, an idiom like “it’s raining cats and dogs” is used to mean that it is raining heavily, but it is also ambiguous because it could be interpreted literally. Similarly, a metaphor like “time is a river” can be interpreted in many ways, such as “time passes quickly” or “time is constantly in motion.” By using metaphors and idioms, writers can create ambiguity and add layers of meaning to their work.
- B. *Examples of how ambiguity can be used in literature.* In literature, ambiguity is a tool used by authors to create multiple possible interpretations of their writing. It can add complexity and depth to a story, leaving the reader to draw conclusions on their own and contemplate possible meanings. Ambiguity can be created in many ways, such as through symbolism, metaphor, and irony. Authors use ambiguity to create suspense and intrigue in their work, allowing readers to think deeply about the text and make their interpretations.

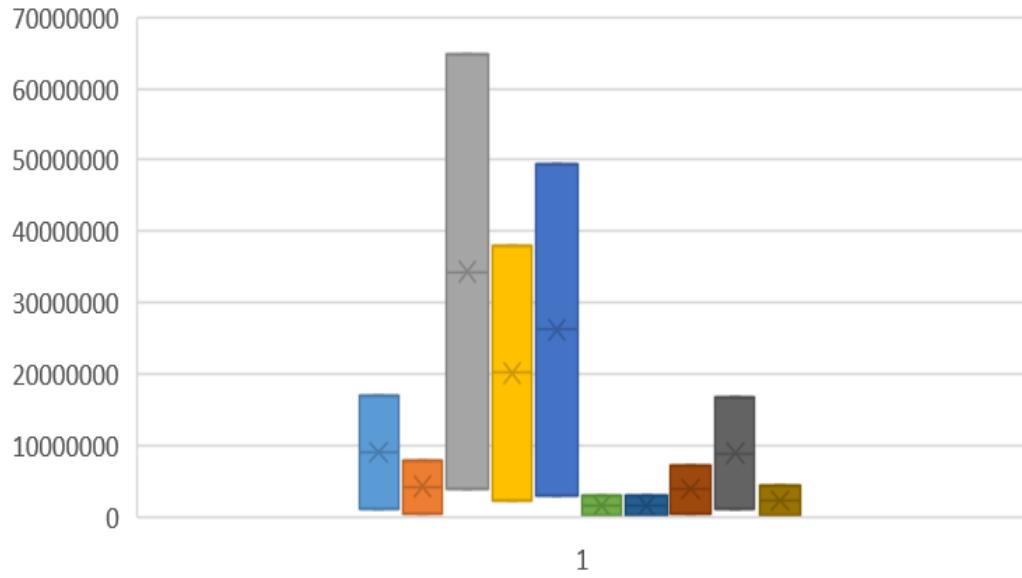
Some examples where ambiguities are used in literature are as below:

1. Irony: Irony is a common tool used in literature to create a sense of ambiguity. The irony is when a character or situation is not what it appears to be, creating a sense of confusion and mystery.
2. Symbolism: Authors often use symbolism to evoke multiple meanings in a story. Symbols can be used to represent something else and can lead to multiple interpretations.
3. Unreliable Narrator: An unreliable narrator is a narrator whose credibility has been seriously compromised. This creates a sense of ambiguity as the readers must question the accuracy of the narrator's words.
4. Multiple Perspectives: Authors can use multiple perspectives in a story to create a sense of ambiguity. By telling the story from different points of view, readers can form their interpretations of events and characters.
5. Ambiguous Dialogue: Ambiguous dialogue is used to create a sense of uncertainty. Characters can speak in a way that is open to multiple interpretations, leaving the reader to decide what is meant.

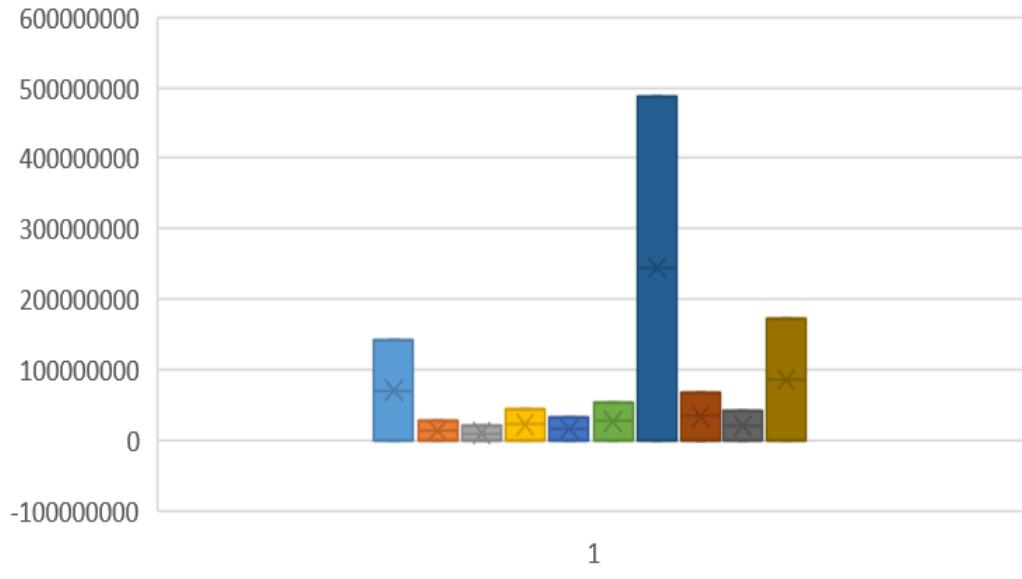
C. Statistical Analysis.

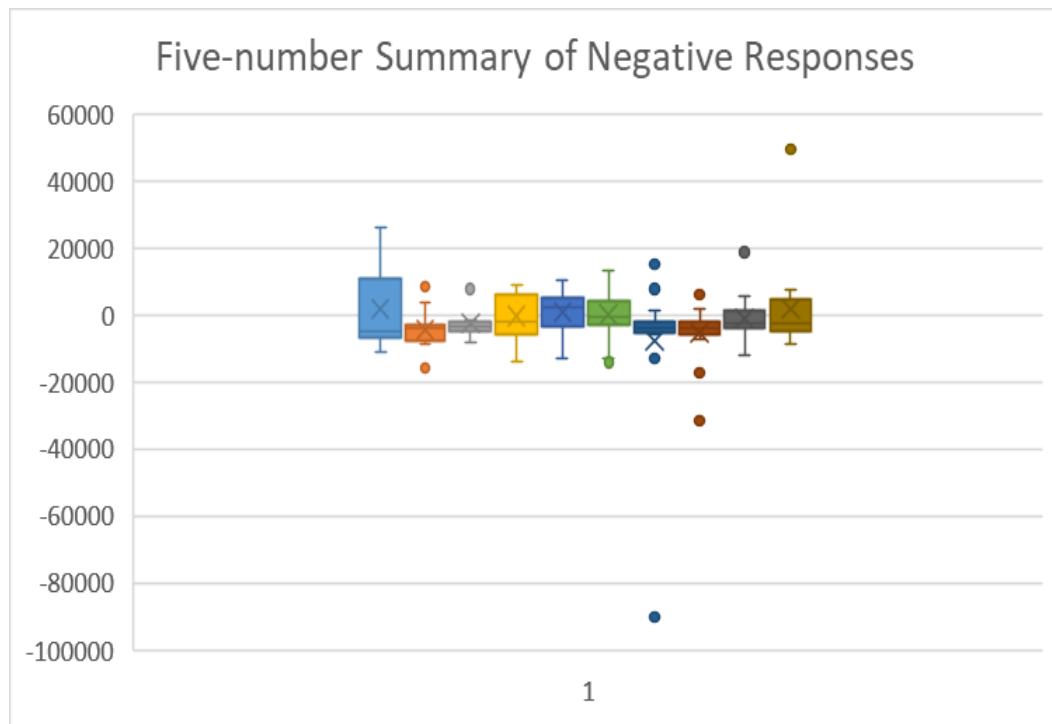
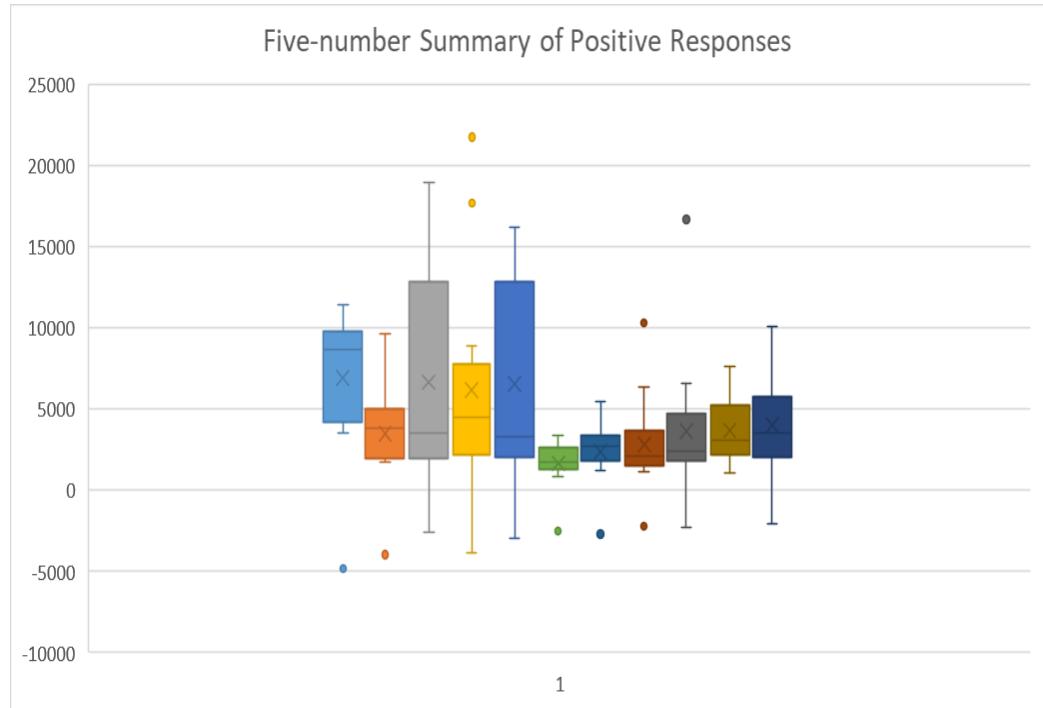


Five-number Summary of the Sentences with Positive RTs



Five-number Summary of the Sentences with Negative RTs





VI. Conclusion

A. *Summary of main points.* After analyzing the test responses, participants with a considerable amount of proficiency in Hindi have less RT with correct responses and higher RTs with incorrect ones.

- Average RT denotes that participants with low proficiency in Hindi take longer to respond to the correct responses. They take time with analyzing and understanding the supposed meaning of the metaphors and idioms and often struggle with understanding some rarely used words like ‘स्याही’.
- After some time, participants could realize a pattern in the test responses. Hence, the positive RTs of the last sentences start decreasing comparatively.
- Participants with high proficiency had fewer RTs compared to low proficient ones.

B. *Reflection on the importance of understanding.* While the concepts of metaphor and ambiguity have long been associated in the literature on metaphor, that association has been instructive only insofar as it has failed. We can learn more about metaphor, by investigating its points of departure from ambiguous language than by assuming its identity with it. I have also argued that we can learn more about metaphor by pursuing its ties to vagueness more actively than it has previously been pursued.

To understand why one selects metaphor, one needs to understand how vagueness can become an overriding interest, even a value, of communication. Work in the pragmatics of metaphor will blossom once theorists come to see in theories of vagueness not only the roots of why we use a metaphor, but also the roots of why we sometimes perceive we must, sometimes perceive we cannot, and sometimes perceive we should not use it.