

Metaphoricity Rating of Chinese KIND Metaphor Expressions

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Abstract

Metaphors are ubiquitous in human language, and there has been an increasing interest in metaphor processing and interpretation from the field of computational and cognitive linguistics. Although metaphors have been greatly researched, there remain certain kinds of metaphors that are under-researched. One of them is KIND metaphors. KIND metaphors are less discussed, and less noticed, for their status as metaphors is often less recognized. In the paper, we looked at KIND metaphors by first identifying 245 sentences of KIND metaphors from the Corpus of Contemporary Taiwanese Mandarin, and later rated the metaphoricity of these metaphorical expressions. The evaluation of the rated data reported an inter-rater agreement (Krippendorff's alpha) of 0.65 and a unanimous percentage of 37%, near a tentative agreement, if we used the strictest criterion to keep the quality of our rating.

1 Introduction

The research of metaphors has blossomed in the late 80s and early 90s and has been given great attention for decades. Different theories of metaphors have been proposed since then although the Conceptual Metaphor Theory (CMT) (Lakoff, 1993; Lakoff and Johnson, 1980; Lakoff and Turner, 1989) was the widely-received one in the 1990s. More review of

Chinese metaphors can be found in Ahrens and Chung (2019). Although many studies of various languages have tried to validate the CMT, the theory has also received criticisms from many (among many, Vervaeke and Kennedy (1996) was a direct criticism of its example grouping). Recently, the CMT has been revitalized for it is believed to have new contributions in shedding light on language framing or in explaining how “[d]ifferent metaphors frame the same topic in different ways, facilitating different inferences and evaluations” (Potts and Semino, 2019, p. 81). The fact that the CMT has become active in recent development has not changed the types of metaphors being noticed. For example, some marked metaphors, as those mentioned by Goatly (1997), are still under-researched. KIND metaphor is one such type.

Goatly (1997, p. 174) surveyed some markers of metaphors such as (a) superordinate terms (identified by the use of *sort of, kind of*); (b) copular similes (*like, as*); (c) clausal similes (*as if, as though*); (d) perceptual processes (*seemed, sounded, looked, felt, tasted, +like/as though/as if*), etc. These markers were later used in the development of Metaphor Identification Procedure (MIP) but *sort of, kind of* and other “[m]ore general signals of all indirectness” was not included for “it is not always clear that they signal metaphoricity or other aspects of discourse” (Steen, Dorst, Herrmann, Kaal, and Krennmayr, 2010, pp. 40-41). In example such that in (1), the metaphorical expression is marked by *a kind of*,

which serves to mark a Transfer metaphor,¹ but further investigation of this metaphor marker is needed.

(1) *I have no relish for the country; it's a kind of healthy grave.*

This becomes the motivation of the current work, for KIND metaphors (cf. following term used in Shih, Chung, Shen, and Liao, 2020) were not properly researched in the past. It is not clear how metaphorical they are, and their proportions of occurrences in the corpus are also unclear.

For Chinese marked metaphors, they have been discussed in a couple of works, but not qualitatively or extensively. In as early as 1982, 袁暉 provided a list of 'marked metaphors', such as '像' 組 *xiang*-group 'like'-group: among which are markers such as 像 *xiang* 'like', 就像 *jiuxiang* 'just like', 很像 *henxiang* 'very much like', etc. (p. 13) and many other types of markers for Chinese metaphors/similes. A follow-up work, by Wang, Lu, Hsu, Lin, and Ai (2019, p. 247), claimed that "[t]o date, MIPVU [MIP developed at the VU University Amsterdam] has not yet gained wide currency in the research field of metaphor in Chinese".²

When KIND metaphors are often left out, there has been little or no discussion of their levels of metaphoricality. Skorczynska and Ahrens (2015) investigated "the use of words and phrases that signal metaphors" in the "US presidential addresses, popular science articles, and business periodical articles". In their study, they took "metaphor signals" from Goatly's (1997) work. Among the signals, *sort of* and *kind of* were under the 'Superordinate terms' category. Among the three genres, these two terms appeared most often in the business periodical articles, constituting 0.0312 and 0.0203 frequency per 1,000 words respectively. This is followed by the popular science articles (0.0211 and 0.0130 frequency respectively). The presidential addresses had the least number of these signals. However, different from Skorczynska and Ahrens, our KIND metaphors were judged in terms of their

metaphorical meanings, while the uses of signalers *sort of* and *kind of* in both Goatly (1997) and Skorczynska and Ahrens (2015) might not be metaphorical in meanings. This is also the reason why we used the measurement of 'metaphoricity' in our experiments.

Patterson (2017, p. 103) said that despite the advancements in computational research on metaphors, the definition of 'metaphoricity' is still largely ignored: "However, while deriving metaphoric data from corpora is by now well established within the field[...], its premise of focusing on repetitive patterns of use means that some cases of metaphoricality are often ignored." From a computing purpose, Potts and Semino (2019) calculated 'metaphoricity' as the percentages of metaphors found from the total instances. (This definition was derived from the data. It was not implicitly given.) Earlier, Hanks (2006, p. 22) claimed that "some metaphors are more metaphorical than others": "In most metaphorical cases, the secondary subject shares fewest properties with the primary subject. Therefore, the reader or hearer has to work correspondingly harder to create a relevant interpretation. At the other extreme, the more shared properties there are, the weaker the metaphoricality." This shows that when two mapped subjects are highly similar in properties, they carry less metaphorical meaning.

In this paper, two issues will be addressed, namely, the KIND metaphors as a type of marked metaphors, and their patterns of occurrences as well as their level of metaphoricality judged by human raters. Two research questions are postulated for these purposes:

- How are the proportions of KIND metaphors found from *kind-of* expressions extracted from corpus?
- What are the levels of metaphoricality judged by human raters on the KIND metaphor expressions identified in corpus?

These two research questions will be answered and their results will contribute to our understanding of KIND metaphors in use.

¹ Goatly (1997, p. 18) classified "metaphors as Approximative when the distance between the thought and proposition is small, and as Transfer metaphors when the gap is larger."

² In Wang et al.'s short chapter, however, no in-depth discussion was provided except for the list of several direct,

indirect, and implicit metaphors with these markers, which will not be discussed in details here. Their markers were similar to 袁暉's (1982) list.

2 Related Works

In the computational field, the issues of metaphor identification and comprehension are no new topics in metaphor research, and the use of corpus in finding patterns of metaphor has also become the trend. Many works have been carried out to annotate metaphorical expressions from various perspectives. The Pragglez Group (Pragglez Group, 2007; Steen, Dorst, Herrmann, Kaal, and Krennmayr, 2010; Steen, Dorst, Herrmann, Kaal, Krennmayr, et al., 2010) annotated 200,000 words of sentences (from the British National Corpus) with metaphorical meaning. We can observe that their Metaphor Identification Procedure (MIP) focused on the distinction between the basic meaning and metaphorical meaning of metaphor-related words. For example, in their study “all uses of *defend* and *attack* in contexts of argumentation can be analyzed as metaphorical” (Steen, Dorst, Herrmann, Kaal, and Krennmayr, 2010, p. 770).

On the other hand, Dunn (2014) measured the metaphoricity of 60 sentences from the Corpus of Contemporary American English. In his study, 100 unique participants from the Mechanical Turk platform annotated the metaphoricity of the whole sentence with three labels: “Not Metaphoric”, “Slightly Metaphoric”, and “Very Metaphoric”, but the inter-annotator agreement of the results were not shown. With a more fine-grained scale of five points, Shih et al. (2020) rated the metaphoricity of Chinese KIND metaphors and similes by asking annotators to judge the metaphoricity of the two concepts extracted using both parser and by hand. The annotation was based on a five-point Likert scale with 1 being ‘least metaphoric’ and 5 being ‘most metaphoric’. The study, however, encountered several difficulties, which were improved upon in this work. First, with the automatic identification of

the two concepts (‘A’ and ‘B’ in ‘A is a kind of B’) in KIND metaphors, it was found that the modifiers were left out and this could affect the results (considering 市場是一種神話 vs. 自由市場是一種神話, the first may mean any kind of markets including the ‘traditional market is a kind of legend’ while the later means ‘free market’, a more abstract concept). However, because Shih et al. aimed at comparing the concept distances, it was unavoidable that only the head nouns could be included. Second, the previous work needed a better guideline apart from informing the annotators what was least metaphorical or most metaphorical. In this paper, we tried to improve upon these two issues by providing a two-staged guideline.

Although Shih et al. (2020) had some limitations, it was among the few studies that investigated KIND metaphors as marked metaphors. Much work in English have been conducted to annotate metaphorical expressions, less focus was placed on the nominal concepts in a metaphorical expression, and a Chinese resource with metaphor rating is still under development. In our study, we first manually identified Chinese KIND metaphorical expressions from corpus. From the KIND metaphors we have identified from corpus (Stage one), a Stage-two rating of the metaphoricity of these metaphorical expressions with a three-point Likert scale will be conducted. The agreement among raters will also be examined. The details of our identification and rating guidelines will be given in the next section.

3 Methodology

To identify KIND metaphor expressions and rate the metaphoricity of these expressions, we used a two-staged design to elicit data. In Stage one, we

	Criteria	Example
Metaphorical sentences	The domains of A and B (in the pattern of ‘A is a kind of B’) are different.	自省 是一種 防腐劑 <i>zixing shi yi zhong fangfuji</i> Self-reflection is a kind of preservative
Non-metaphorical sentences	A is the literal class inclusion of B.	電視劇 是一種 通俗 文化 <i>dianshiju shi yi zhong tongsu wenhua</i> TV drama is a kind of popular culture

Table 1: The Identification of KIND metaphors and data description.

Metaphoricity	Description	Examples
3	- This expression has a metaphorical meaning. The concepts A and B have basic sense respectively but they show certain sense in specified context in the KIND metaphor structure. - When A and B are not simple inclusion, their meaning may vary in different contexts.	(2a) 自省 是一種 防腐劑 <i>zixing shi yi zhong fangfuji</i> 'Self-reflection is a kind of preservative'
2	This expression is less metaphorical than 3 but it is not frozen as in 1.	(2b) 學習 是一種 探險 <i>xuexi she yi zhong tanxian</i> 'Learning is a kind of adventure'
1	This structure is frozen for B is often used in a formulaic way regardless of what A is. ³	(2c) 聆聽 是一種 藝術 <i>lingting shi yi zhong yishu</i> 'Listening is a kind of art'

Table 2: The rating guidelines of KIND metaphor expressions.

collected data from the Corpus of Contemporary Taiwanese Mandarin (COCT), which consists of 319,712,694 words in total. We focused on one pattern of KIND metaphors, 是一種 *shi yi zhong* 'is a kind of'. We used the CQP (Corpus Query Processor) syntax to elicit the data from corpus and downloaded all the data into Excel for further analysis.

For the structure of 是一種 *shi yi zhong* 'is a kind of', a CQP pattern <s> []{0,10} [word="是"] [word="—"] [word="種"] []{0,10} </s> was typed into the query box, and the COCT corpus system returned 9,058 matched sentences. In terms of the first stage of this KIND metaphor identification, a binary classification task was conducted in Excel by recognizing if A and B form a KIND metaphor (see Table 1). For example, the sentence 自省是一種防腐劑 'Self-reflection is a kind of preservative' will be considered as metaphorical, but the sentence 電視劇是一種通俗文化 'TV drama is a kind of popular culture' is not. The metaphor and non-metaphor distinction was made based on the distance between the two concepts in the sentences of A and B 'A 是一種 B', and this distance was the main key identifier to conduct the binary identification at Stage one.⁴ If simple literal inclusion was found, the sentence

would be recorded as non-KIND metaphor and therefore would not be included in the Stage-two metaphoricity rating.

For Stage two (metaphoricity rating), we first used the 245 sentences from Stage one. Three raters were recruited to rate the metaphoricity of these sentences based on the rating guidelines of KIND metaphor expressions (see Table 2).

According to the guidelines, sentences were rated with the metaphoricity of 3 if they feature high metaphorical meanings when A collocates with '是一種 B', which means A and B have a basic sense respectively but they show a combined different meaning in the KIND metaphor structure. For example, in the sentence (2a), 'self-reflection' and 'preservative' both have a respective basic sense, but when they appear as a KIND metaphor, they together form a metaphorical meaning. This principle is more or less similar to the MIPVU but it is also different in the sense that MIPVU considers only one lexical item. In our version, we considered the relation between the concepts A and B in the pattern of 'A is a kind of B'.

On the other hand, the sentences that were rated with the metaphoricity of 1 show to possess frozen meanings although they are still KIND metaphors.

³ We needed to separate the frozen expressions for their 'B's were high in frequency and we would like to make sure that they did not affect the metaphoric categories of 2 and 3.

⁴ For this paper, we defined the nominal concepts as 'domains' but further discussion of their scopes is definitely needed in the future.

Sentences such as (2c) are formulaic because the concept B is too conventionalized that one needs not process further to understand why the concept A is an art, a tool, or a crime (cf. Table 4 for more terms). As for the middle category, 2, their sentences have less metaphorical meanings than those of 3, and are not as frozen as those with the metaphoricity of 1 (e.g., the sentence 2b).⁵

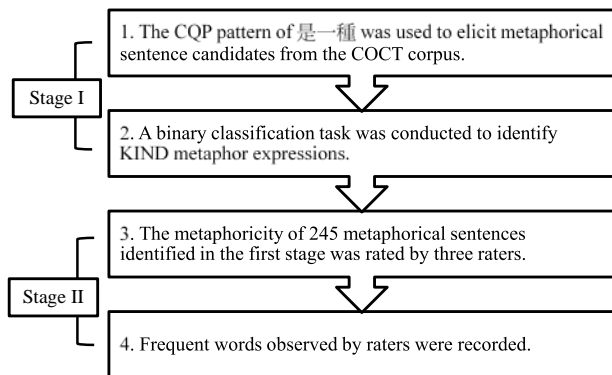


Figure 1: Flow chart of the two-staged design.

In addition, the three raters were requested to record the frequent words which occurred as concept B in the ‘A is a kind of B’ pattern. By ‘frequent’, we meant the lexical items in the concept B could occur with several types of concept A. Although separating 2 from 3, and 2 from 1, was not an easy task but we felt that there was a need to do this because some KIND metaphors are less conventionalized but not as frozen. We then asked raters to label the 245 sentences based on our criteria. The flow chart of the two-staged design is illustrated in Figure 1.

4 Results

In the first stage, from the total 9,058 instances, we were only able to analyze 1,780 sentences due to the great amount of data, and among these we found 245 sentences of KIND metaphors (based on the identification criteria in Table 1) for further rating.

Pattern	Number of sentences	Unanimous percentage	Agreement
是一種 <i>shi yi zhong</i>	176	37 %	0.65

Table 3: The numbers of rated sentences of KIND metaphors with the corresponding unanimous percentages and inter-rater agreement (Krippendorff’s alpha).

This indicates that about 14% of the *is-a-kind-of* sentences are metaphorical, a percentage far lower than the 30% metaphors found in previous work (cf. Chung, 2009). This also means that KIND metaphors could be a special type whereby its possibility of carrying a metaphoric meaning is only half of the chances of other metaphors. Using four elements (Topic, Vehicle, Ground, and marker), Goatly (1997, p. 169) once claimed that if a sentence, e.g., (3a), has all the four elements, such expression is “marked out of existence, sometimes to the extent of becoming a literal comparison or simile”. Comparatively, sentence (3b), which only consists of two elements, is more metaphorical.

- (3) (a) *One or two tupaia species*_{topic} run along branches_{ground} *like*_m *squirrels*_{vehicle}.
vs.
(b) *Housework*_{topic} *is a treadmill*_{vehicle}.

This helps explain why a marked metaphor such as a KIND metaphor (simile in the case of 3a) is less metaphorical than other metaphors identified through the CMT (cf. Chung, 2009). However, this does not explain whether or not all KIND metaphors are equally more or less metaphorical than one another. This is the second goal of this paper.

In the second stage, the total 245 sentences in the pattern of 是一種 *shi yi zhong* ‘is a kind of’ from the COCT corpus were rated in terms of their metaphoricity in the three-point Likert scale by three raters. We also provided an option to the raters that if they still considered an expression as a non-metaphor, they could write a remark after the sentence. This was to ensure that they only rated the sentences they all agreed as metaphors. To keep the quality of our rating data, we also removed sentences when either two of the ratings were too diverse (i.e., a difference

⁵ According to Goodman (1976, p. 82), “[a] frozen metaphor has lost the vigor of youth, but remains a metaphor.”

Metaphoricity	Concept B in the pattern of ‘A is a kind of B’
1	途徑、折磨、障礙、革命、財富、威脅、災難(災禍)、過程、習慣(惡習)、負擔、信號、懲罰、折磨、危險、遊戲、訊號(警訊)、 <i>語言、罪(罪惡)、治療、負擔、知識、信仰(宗教)、修養(修行、修練)、折磨、陷阱、投資(資本)、良藥(魔藥)</i> 。
2	<i>語言、罪(罪惡)、陷阱、投資</i> 、浪費、武器、挑戰、 <i>資本(資源)、投資</i> 、幻、束縛、罪惡、冒險、機器、享受。
3	-

Table 4: Frequent nouns occurring as the concept B in the pattern of KIND metaphors, and the corresponding metaphoricity.

of two points in the three-point Likert scale). Due to these strict criteria, 69 sentences were removed either because one rater considered that a sentence is not a metaphor, or two raters had diverse ratings.⁶

After removing the 69 sentences, the remaining 176 sentences were evaluated by Krippendorff’s alpha inter-rater agreement. We found a 0.65 (near a tentative agreement), as shown in Table 3. From these 176 instances, we obtained a 37% unanimous percentage, meaning that more than one-third of the sentences were given similar rating by the three raters. The remaining 63% were either between 1 and 2, or 2 and 3. As indicated earlier, the separation of 2 from 1, and 2 from 3, was not an easy task. The results that we obtained was more than satisfactory for identification of metaphoricity is never a clear-cut task.

During the process of rating, the raters also found frequent nouns occurring as the concept B in the pattern of KIND metaphors with specific metaphoricity. We collected the frequent concepts in Table 4. Some concepts B were identified as metaphors but with different levels of metaphoricity by the raters. For these concepts, we highlighted them in italic so that we could reconsider them in the future.

5 Discussion and Limitations

This paper sets out to account for Chinese expressions of KIND metaphors in the pattern of 是一種 *shi yi zhong* ‘is a kind of’ in Mandarin. We first manually identified metaphorical expressions in a binary classification task, and then rated the metaphoricity of these metaphorical expressions with a three-point Likert scale by three raters. After the rating, there were some sentences that at least one rater considered non-metaphorical, or the ratings among two of raters were diverse. We removed these sentences and calculated the inter-rater agreement of each patterns. This section is a more detailed discussion of result of the pattern of A 是一種 B ‘A is a kind of B’.

The 69 removed sentences consist of 18 sentences at least one rater considered non-metaphorical, and 51 sentences of which the disagreements between two of the raters were too strong. We found that the raters considered the 18 sentences non-metaphorical because of the following two reasons. First, these concepts of A or B in the ‘A is a kind of B’ pattern are too domain-specific that the raters found it hard to rate them confidently without first understanding their intended meaning. For example, in sentence (4) 禪 *chan* ‘Zen’ is a word from Buddhism referring to deep meditation, and 法門 *famen* ‘way’ is also a word from Buddhism.⁷ The raters then decided to

⁶ If we took these 69 sentences with diverse rating into consideration, the inter-rater agreement in Krippendorff’s alpha is 0.34 with a unanimous percentage of 29%.

⁷ Porat and Shen (2015, p. 82) found that the metaphoricity of a class of constructions can be imposed and vary according to either a literal reading or a metaphorical reading of the same sentence (e.g., *this*

regard this example as a non-metaphorical one. The second reason was that sometimes the part-of-speech of A in the ‘A is a kind of B’ pattern is not a noun, which differs from the traditional form of metaphors, and complex structures are shown in our data. Another possibility was that when both A and B are abstract, raters found it difficult to decide and therefore tended to disregard them.

- (4) 禪，是一種促進人類心智
chan, shi yi zhong cujin renlei xinzhi
 Zen, is a kind boost human mind
 甦醒的法門。
suxing de famen.
 awaken DE way.
 “Zen is a kind of way to boost human mind to become awaken.”

In the basic structure of KIND metaphors, both A and B are usually nouns, and nouns are easier for raters to rate their metaphoricity. However, in example (5), 這 *zhe* ‘this’ refers to a previous clause in the previous context, and this complicated the metaphor in this example, leading to the raters’ hesitation in labeling their metaphoricity. However, we were not able to remove these examples beforehand because our study was a corpus-based study and we should include all examples that were judged as metaphorical at Stage one.

- (5) 佛陀為什麼要拈花微笑呢？
Fotuo weishenme yao nianhua weixiao ne?
 Buddha why will take flower smile NE?

Average	Total (%)	Description
3.00	17 (10%)	All raters rated the sentences with the metaphoricity of 3.
2.67	25 (14%)	Two raters rated 3 and one rater rated 2 for the sentences.
2.33	28 (16%)	One rater rated 3 and two raters rated 2 for the sentences.
2.00	16 (9%)	All raters rated 2 for the sentences.
1.67	27 (15%)	Two raters rated 2 and one rater rated 1 for the sentences.
1.33	30 (17%)	One rater rated 2 and two raters rated 1 for the sentences.
1.00	33 (19%)	All raters rated the sentences with the metaphoricity of 1.
1.91	176 (100%)	Total

Table 5: The average metaphoricity of sentences in the pattern of 是一種 *shi yi zhong* ‘is a kind of’.

book is an encyclopedia). This could become a future work.

很明顯的，這是一種意義
Hen mingxian de, zhe shi yi zhong yiyi
 very obvious DE, this is a kind meaning
 豐富的象徵式語言。
fengfu de xianzhenshi yuyan.
 rich DE symbolic language.

“Why Buddha smile while taking flowers? Obviously, this is a kind of symbolic language with a rich meaning.”

The above were some reasons for raters to analyze the sentences with different outcomes. The problems we encountered in the removed examples were not unexpected because metaphors are creative and even in the less varied form of KIND metaphors, we still found complex sentence patterns.

5.1 Metaphoricity of KIND metaphor expressions

In order to understand the ratings of remaining 176 sentences, we analyzed their different ratings in Table 5. If we take the metaphoricity of 2 as the cutting point, half of the rating fell between 1 and 2 (19%+17%+15%=51%), while a slightly smaller number (9%+16%+14%+10%=49%) fell between 2 and 3 (including 2). This indicates that KIND metaphors were half frozen. Only 10% were considered highly metaphorical. From here, we could answer the question we asked previously – how metaphorical are expressions of KIND metaphors? The answer was 51% close to frozen, and 49% close to metaphorical. Examples that are highly frozen are shown as (6).

- (6) 語言 是 一 種 工 具 。
yuyan shi yi zhong gongju .
Language is a kind tool .
“Language is a kind of tool.”

The concept B 工具 *gongju* ‘tool’ can only be interpreted in one way, that is, to indicate that something is useful. Since this kind of interpretation occurs so often, people often do not realize that it is metaphorical anymore. This is what we called fully fixation here. For KIND metaphors, this happen quite frequently.

For KIND metaphors, especially, as time goes by, if the same metaphors are used more frequently, the way of use will gradually be fixed. It might become frozen more easily than other kinds of metaphors. All in all, we have identified several features of KIND metaphors that deserve our in-depth discussion. Through this research, we can provide a preliminary contribution to the metaphoricity and the process of KIND metaphors that have not been previously discovered.

5.2 Marked metaphors and the CMT theory

In the Conceptual Metaphor Theory, most metaphorical expressions are embodied in our daily language. Markers are not necessarily needed. The investigation of the KIND metaphor expressions in this paper, however, implies that marked metaphors (such as KIND metaphors and similes) feature a special distribution of metaphorical expressions in the corpus. The 245 identified KIND metaphor sentences only account for 14% of the 1,780 sentences in the ‘is a kind of’ pattern, with almost only half of the 30% metaphorical sentences found in other research (Chung, 2009, p. 77). In addition, the 1,535 non-metaphorical expressions in the ‘is a kind of’ pattern are worth further analysis.

In this paper, we brought our attention to the mapped concepts marked in the KIND metaphor other expression such as similes, and also provided a window to respond to the embodied concepts in the Conceptual Metaphor Theory. Even with the marker, the metaphoricity of these KIND metaphor expressions varies. On one hand, almost half of KIND metaphor expressions are near frozen, conventionalized, and thus embodied in our

language and life. On the other hand, still the other half KIND metaphor expressions are more creative metaphors, which deserves our attention to investigate the creation of metaphors based on the marker and mapped concepts (and the abstractness).

6 Conclusion

This paper addressed the metaphoricity of expressions of a kind of marked metaphors, namely KIND metaphors, by proposing an identification guideline and a rating guideline for KIND metaphors. For the first research question, we have identified 245 KIND metaphor sentences, which account for 14% of the 1,780 sentences in the ‘is a kind of’ pattern, featuring a special distribution in metaphor research. We also discussed how metaphorical the expressions of KIND metaphors are. We reported that the average metaphoricity of the 176 sentences of KIND metaphors was 1.91 in a three-point Likert scale, with almost a half of near frozen metaphors and the other half of more novel metaphors. We also found some frequent nouns (as the concept B in the pattern of ‘A is a kind of B’) that occur with frozen KIND metaphors, which can be further exploited to identify more sentences of frozen metaphors.

In the future study, we will further examine the proportion of KIND metaphor expressions in the whole corpus. We will also investigate other patterns of KIND metaphors and the non-metaphorical expressions of these patterns. We will also extract cross-domain concepts of metaphors by linking the mapping concepts marked by the patterns of KIND metaphors to lexical knowledge resources.

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