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PDF issue: 2026-11-03

# Social variation in metaphors: Preferred metaphors by occupation in the COVID-19 pandemic in Japan

Komatsubara, Tetsuta

(Citation)
COVID-19: Metaphor and metonymy across languages and cultures,11:63-82

(Issue Date)
2025-10-06

(Resource Type)
book part

(Version)
Accepted Manuscript

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(URL)
https://hdl.handle.net/20.500.14094/0100497739

KOBE UNIVERSITY

# Social variation in metaphors:

## Preferred metaphors by occupation in the COVID-19 pandemic in Japan

That metaphor varies depending on the social context is crucial to understanding social variation in metaphors for the COVID-19 pandemic. The analysis of metaphorical utterances in direct quotations from Japanese newspaper articles revealed that the metaphor DISEASE IS WAR was preferred in government, politics, and healthcare, whereas BUSINESS IS WAR was common in hospitality, tourism, transport, and financial services. These two war metaphors had different foci from those in conventional usage and included emergent properties closely linked to the social contexts of a pandemic. Our study illustrated that the analysis of social factors, including occupation, is a useful approach to explore variations in the foci of a metaphor as well as variations in the types of metaphors.

**Keywords**: conceptual metaphor, MIP, variation, frame, social context, occupation, newspaper, direct quotation, Japanese

## 1. Introduction

According to the cognitive linguistic view of metaphors, known as conceptual metaphor theory (Lakoff & Johnson 1980; Kövecses 2010), metaphors are primarily conceptual and govern how we experience the world, think, and act. Metaphors are important in communication and cognition as they express, reflect, and reinforce different ways of making sense of particular aspects of our lives (Semino, Demjén, & Demmen 2018, p. 625). Conceptual metaphor theory posits that some basic metaphors, such as TIME IS MOTION, EMOTION IS HEAT, A MENTAL STATE IS A PHYSICAL OBJECT, and ORGANIZATION IS PHYSICAL STRUCTURE, are potentially universal (Grady 1997, p. 288; Kövecses 2005, Ch. 3; Yu 2008, p. 259). On the other hand, it should be noted that choices of metaphorical sources can vary depending on contextual factors, such as the surrounding discourse, physical environment, conceptual-cognitive knowledge, and sociocultural settings (Kövecses 2015).

The sociocultural settings of metaphors are particularly important when we comprehend elusive and complicated issues in our social lives because the choice of metaphor indicates a certain perspective on the definition, causal interpretation, and problem evaluation of the issue. For instance, Charteris-Black (2006) argued that natural disaster metaphors portray immigration as something negative that causes serious trouble and is difficult to control. Many studies have discussed the social context of metaphorical discourse on social issues including climate change (Asplund 2011; van der Hel, Hellsten, & Steen 2018), economics (Morris et al. 2007; Bickes, Otten, & Weymann 2014), immigration (Fine & Christoforides 1991; Charteris-Black 2006), and disease

(Semino et al. 2017; Semino, Demjénm & Demmen 2018; Komatsubara 2023). These studies indicate that investigating the metaphors used to comprehend a social issue can reveal which aspects of the issue are focused on in a particular social setting.

The social context of metaphor consists of social aspects of life typically centered around notions such as gender, class, politeness, work, education, social organizations, and social structure (Kövecses 2020, p. 96). Among these, social backgrounds related to occupations can play a crucial role in explaining the *variation in types* of metaphors used for the COVID-19 pandemic. For example, doctors and nurses had consistently used 'war' metaphors, such as 'protecting' life from the coronavirus, while Japanese politicians used alternative metaphorical slogans such as 'living together' with the coronavirus once they noticed 'war' metaphors were no longer effective. Moreover, occupations are relevant to the *variation in foci* of a type of metaphors, as well as the variation in types of metaphors. For example, war metaphors in the discourse on epidemics and diseases, such as 'the *fight* against an invisible *enemy*,' are highly conventional (Sontag 1979; Karlberg & Buell 2005; Flusberg, Matlock, & Thibodeau 2018), but people in different occupations may focus on different elements of war metaphors, such as foes, allies, weapons, damages, attacks, defenses, winning, and losing. During the COVID-19 pandemic, politicians worldwide highlighted the importance of 'defeating the enemy' and 'winning the war' (Bates 2020; Chapman & Miller 2020; Seixas 2021; Rajandran 2020). In contrast, business people, for instance, may

have focused on different aspects of 'the *war* on the coronavirus' by talking about economic 'damages' and 'recovery' from the economic slump. They may have shared the same metaphorical source of WAR, but their different foci might result in different causal interpretations and problem evaluations. The present article investigates the metaphors used and by whom to conceptualize the pandemic and discusses social contexts that motivate two kinds of variation in metaphors: variation in types of metaphors and variation in foci of a metaphor.

To describe social variation in metaphors, we deal with metaphorical utterances observed in direct quotations extracted from Japanese newspaper articles whose topics include the epidemiological, economic, social, and psychological aspects of the pandemic situation in Japan. Fairclough (2003) characterized newspaper articles and press reports as "an alternation between authorial accounts and indirect reports, backed up or substantiated with direct quotations" (*ibid.*, p. 50). Direct quotations are useful for identifying who used a metaphor for the pandemic and analyzing the relationships between metaphorical sources and social contexts because a direct quotation is, by definition, accompanied by the information source, such as the speaker's name, age, and job (Komatsubara 2024). Moreover, large newspaper electronic databases are available in Japanese; therefore, articles on the pandemic can be retrieved through appropriate keyword searches. Focusing on articles published from March to July 2020, in which the situation in Japan had rapidly changed, we identified the types of metaphorical mappings that were dominant and analyzed how the foci of metaphors varied depending on social contexts.

The remainder of this paper is organized as follows. Section 2 explains the data used and framework of the description of metaphors. Section 3 presents the results of the general trends in metaphorical sources and social variation in metaphors. Section 4 discusses how social factors motivate metaphorical variation, focusing on variation in the foci of WAR metaphors. Finally, Section 5 concludes the paper and discusses its implications.

## 2. Methodology

### 2.1 Data

To collect examples of metaphors for the pandemic, we focused on direct quotations with quotation marks in newspaper articles that include the keyword *koronauirusu* 'coronavirus,' which is the most common word for COVID-19 in Japanese, using "Kikuzo II Visual" (updated as "Asahi Shimbun Cross-Search" in 2022), the largest newspaper article database by Asahi Shimbun Company. Direct quotations are accompanied by information about the speaker's social background, such as name, age, gender, job, and affiliation. For example, in (1), we can identify the name (*i.e.*, "Koji Endo") and job (*i.e.*, "the representative of an after-school-care center in Osaka") of the speaker of the quoted utterance.

(1) Koji Endo, the representative of an after-school care center in Osaka, said, "Many institutions have to endure hardship with a sense of mission for *protecting* children."

("The Asahi Shimbun," evening edition, April 16, 2021; English translation and italics added by the author)

Some of the selected articles did not feature COVID-19 as a discourse topic, although they included keywords; therefore, we manually excluded these irrelevant articles. Translated quotations, such as President Trump's comments on COVID-19, were also excluded from the analysis because they were not directly relevant to metaphorical conceptualization in Japanese.

A total of 1,334 articles, which consisted of approximately 1,090,000 characters (approximately 520,000 words), were sampled by choosing five dates at monthly intervals from March to July 2020, during which time Japan was greatly influenced by COVID-19. The sampling dates and number of coronavirus-related articles on each day were as follows: March 13 (253); April 16 (425); May 25 (189); June 19 (249); and July 22 (218). These dates were selected according to the timeline of the pandemic in Japan as follows: Once the first case was reported in January 2020, the number of new infections increased, and on March 13, the National Diet passed an amendment to the Special Measures Act for an influenza outbreak to include COVID-19. The number of new infections approached its first peak in April, and Prime Minister Shinzo Abe declared a nationwide state of emergency on April 16. After the state of emergency was lifted on May 25, the rate of increase in new infections

remained at a low level, and the "self-restraint" request not to travel across prefectures was lifted on June 19, but the high record of new infections on July 22 signaled the coming of "the second wave" of the pandemic.

To extract metaphors broadly relevant to the pandemic situation, in our survey we attempted to cover metaphors that described anything reasonably considered to be caused by the pandemic situation, such as economic slump, social unrest, and the "new normal," as well as more directly relevant elements, such as prevention and treatment of the coronavirus manifested in the metaphor 'fighting against the coronavirus.' Using the identification method described in Section 2.2, 305 examples of metaphorical expressions were extracted from the newspaper articles.

## 2.2 Identification of metaphors

To exhaustively extract metaphorical utterances, we adopted the Metaphor Identification Procedure (MIP; Pragglejaz Group 2007) as a basic strategy: We first divided a text into lexical units and then identified its meaning in the context of each lexical unit. We then used a dictionary to establish each lexical unit's basic (*i.e.*, more concrete, physical, and precise) meaning. Finally, if the basic meaning was distinct from the meaning in context and the contextual meaning could be understood by referring to the basic meaning, we coded the lexical unit as metaphorical.

When MIP is applied to metaphors in Japanese, it is necessary to set criteria

for identifying lexical units and choose an appropriate dictionary to interpret their meanings. Because Japanese does not leave a space between words, we manually parsed sentences and identified morphemes as lexical units unless derivatives and compounds were registered as lexical units in the dictionary. Grammatical morphemes were excluded from the analysis. To compare the meaning in context with the basic meaning of a lexical unit, we used "Supa Daijirin 3.0" by Sanseido as a reference.

For example, in (2), the words *teki* 'enemy', *tatakai* 'fight', and *kachinuka* 'win' are identified as metaphorical expressions that refer to the coronavirus, living a life in the pandemic, and eradicating the coronavirus, respectively. Italics in the Japanese examples and English translations indicate that the expressions are metaphorical. The glossing notation in this chapter follows the Leipzig Glossing Rules (Comrie et al. 2015).

(2) Mie-zaru *teki*=to-no *tatakai*=ni *kachinuka*-nakereba.
see-NEG enemy=with-POS fight=in win-must
'[We] must *win* the *fight* against the invisible *enemy*.'
(Yuriko Koike, Governor of Tokyo, March 13, 2020)

(3) Kodomo=ga *mae*=o *muite* *susunde* it-tekure-tara ureshii.
children=NOM front=ACC look proceed go-BEN-COND happy
'[I am] happy if children *look* and *move forward*.'
(Kayo Kubozono, A kindergarten in Kitakyushu, June 19, 2020)

(4) Fuan=o *aoru* houdou=ga tsuzuki, hitobito=ga fuan=ni
anxiety=ACC fan report=NOM continue, people=NOM anxiety=in
*ochiit*-teiru.

fall.in-PROG

'Reports *fanning* people's anxiety continuing, they are *falling in* anxiety.'

(Hidenori Yamada, Business Hotel Raizan, March 13, 2020)

Unlike MIP, which counts a metaphorical lexical unit as an example, we counted a coherent metaphorical utterance as an example when a series of lexical units shared a metaphorical source in the utterance because we were not interested in how many metaphorical words someone uses, but what type of metaphorical sources someone chooses in an utterance. In other words, the unit of analysis in this study was utterances (*i.e.*, a series of lexical units from the beginning to the end of a quotation), not words. For example, according to MIP, *mae* 'front', *muite* 'look', and *susunde* 'proceed' in (3) are counted as three separate metaphorical expressions, but these metaphors, in terms of the descriptive framework outlined in Section 2.3, share the metaphorical source of JOURNEY and form coherent metaphorical conceptualization of children's future in the pandemic situation. However, when an utterance included two metaphorical sources, we counted it as two examples of different metaphorical sources. In other words, an utterance can be an example of mixed metaphors and categorized as several different types of metaphors. In (4), *aoru* 'fan' and *ochiit-teiru* 'fall.in-PROG' describe different aspects of *fuan* 'anxiety' respectively and thus are counted as two examples of different metaphorical utterances.

## 2.3 Description of metaphors

To capture the semantic patterns of metaphorical framing, we adopted the cognitive linguistic view of metaphor, referred to as conceptual metaphor theory (CMT; Lakoff 1993; Kövecses 2010). According to CMT, metaphors are defined as *mappings* across different domains in the conceptual structure. Expressions such as 'He *shot down* all of my arguments' are regarded as linguistic manifestations of conceptual metaphors, in this case, of ARGUMENT IS WAR. This conceptual metaphor involves mapping aspects of the *source* domain of WAR onto those of the *target* domain of ARGUMENT.

Our strategy for describing the semantic patterns of the metaphorical expressions identified in the data was twofold: First, at the level of lexical units, we determined specific correspondences between the source and target elements. For example, in (5), *make-nai-you* 'not to lose' is an instance of the metaphorical mapping DESPAIRING IS LOSING at the most specific level of description.

(5) Shin-gata koronauirusu=ni *make*-nai-you taisaku=o koujiru.
new-type coronavirus=by lose-NEG-PURP measure=ACC take
'[We will] take measures not to *lose* to the new type of coronavirus.'
(Taizo Mikazuki, Governor of Shiga, March 13, 2020)

Second, at the level of frames, we categorized the specific correspondences

between the source and target elements into types of mapping between frames, as proposed by the MetaNet Metaphor Wiki. MetaNet is a large structured repository of conceptual metaphors that adopts a frame-based approach to the representation of meaning (Petruck 2018). MetaNet was originally developed based on a project to explore metaphors in English, Persian, Russian, and Spanish, and we do not have sufficient evidence to apply it to Japanese; however to the best of our knowledge, it is the most systematic database of conceptual metaphors. MetaNet is not designed to describe the pandemic situation; therefore, inevitably there are frames that are not included in the list, although it is obviously necessary to extract patterns of the metaphorical conceptualization of the pandemic situation. Therefore, we assumed the frame MEDICAL SERVICE to capture metaphors related to the pandemic situation in addition to the list published in MetaNet. Although the frame of MEDICAL SERVICE partly overlaps with the knowledge of DISEASE, it was added to describe metaphors that are not directly relevant to disease, such as *iryotaisei no hokai* '*collapse* of medical service'.

We interpret the source and target elements in the first step as elements of the frames. For example, (5) can be interpreted as an utterance describing DISEASE prevention in terms of WAR. Thus, we can consider the correspondence between DESPAIRING and LOSING as an instance of the mapping DISEASE IS WAR. Because frames in the repository overlap to an extent (*e.g.*, DISEASE, DISEASE TREATMENT, and DISEASE SPREAD), we cannot completely avoid arbitrariness and vagueness of the general patterns of mappings. However, a fixed list of

frames can significantly reduce the risk of subjective judgment when extracting mapping patterns.

# 3. Results

## 3.1 Conceptual variation in metaphors

An analysis of 305 Japanese metaphors of the pandemic showed that the source and target frames in Table 1 were frequently observed in the metaphorical descriptions of the pandemic. The numbers in parentheses indicate the numbers of examples. As reported by previous studies of metaphors of the pandemic (Wicke & Bolognesi 2020; Leo & David 2020; Gui 2021), the most frequent metaphorical source is WAR, which accounted for approximately 20% of the examples, and the most common target frame was DISEASE. Frequent sources involved concrete concepts, such as OBJECT and BUILDING, and physical experiences, such as WAR, ACTION, and MOTION, whereas frequent targets tended to be more abstract and social, such as EMOTION, THOUGHT, BUSINESS, and ECONOMY. These general trends are in accordance with the unidirectionality principle predicted by conceptual metaphor theory (Kövecses 2010, pp. 27–28).

Table 1: Frequent source and target frames in metaphors of the pandemic in Japanese

| Rank | Source Domain | Target Domain |
|---|---|---|
| 1 | WAR (69) | DISEASE (63) |
| 2 | ACTION (59) | BUSINESS (45) |
| 3 | MOTION (29) | EMOTION (42) |
| 4 | OBJECT (29) | THOUGHT (28) |
| 5 | BUILDING (22) | ECONOMY (21) |
| 6 | PERSON (16) | MIND (14) |
| 7 | PERCEPTION (15) | SOCIETY (13) |
| 8 | LIQUID (10) | DIFFICULTY (10) |
| 9 | BODY (7) | IDEA (8) |
| 10 | CONTAINER (6) | MEDICAL SERVICE (8) |

A total of 78 types of metaphorical mappings were identified in terms of the list of frames in MetaNet, and the 16 mappings with more than five examples are shown in Figure 1. A particularly salient tendency was the highly productive use of the metaphorical source of WAR in DISEASE IS WAR and BUSINESS IS WAR. In addition, we observed a high frequency of ACTION metaphors that described mental experiences: THOUGHT IS ACTION and EMOTION IS ACTION.

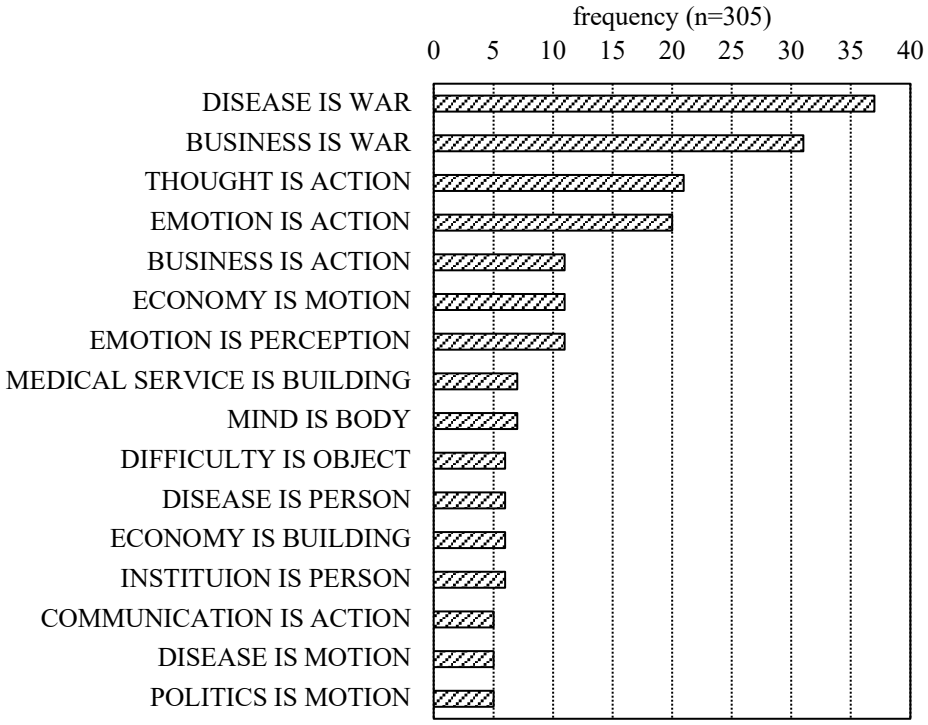



Figure 1: Frequent metaphorical mappings targeting the COVID-19 pandemic in Japanese

Examples of frequent mappings are as follows: The word *mamora* 'protect' in (6) is an instance of DISEASE IS WAR, and the word *kusen* 'hard fight' in (7) illustrates the WAR metaphor targeting the frame of BUSINESS. (8) is an example of the metaphor THOUGHT IS ACTION, which is indirectly related to the pandemic situation: psychological care of children who suffer from stress caused by COVID-19. The metaphor EMOTION IS ACTION is illustrated by (9), which materializes a sad experience in the pandemic. Note that the labels EMOTION and THOUGHT were aimed at describing the psychological processes of feeling

and thinking. For example, describing feeling sadness as holding a heavy object implies the mapping between feeling and holding and between sadness and a heavy object, but we did not generalize them as EMOTION IS OBJECT but as the mapping between psychological process and physical action, such as FEELING AN EMOTION IS HOLDING AN OBJECT. The labels EMOTION IS ACTION and THOUGHT IS ACTION are intended to describe this kind of mapping of the psychological processes.

(6) Shokuin=mo kansen=kara *mamora*-naitoikenai.
staff =TOP.also infection=from protect-must
'[We] also must *protect* the staff from infection.'
(The manager of an adult day care center in Sapporo, March 13, 2020)

(7) Kanko=no *kusen*=ga tsuzuku Okinawa
sightseeing=POS hard.fight=NOM continue Okinawa
'Okinawa where [they] keep having a *hard fight* for sightseeing [business].'
(Godo Shusei Co., Ltd., April 16, 2020)

(8) Kodomo=no tachiba=ni *yoriso*-e-teiru-no=ka
children=POS situation=in stand.close-can-PROG-NMLZ=Q
'[I wonder] if [we] are *standing close* to children in the situation.'
(Hitomi Okumura, Osaka Advocacy Center for Children, May 25, 2020)

(9) Kanashii omoi=o *kakae*-rare-ta kata=no kimochi
sad experience=ACC hold-HON-PFV person=POS feeling
'feeling of someone who *hold* a sad experience'
(Kimiko Moue, family Buddhist altar shop Yoshinari, April 16, 2020)

Several frequent target frames that include DISEASE, BUSINESS, EMOTION, and ECONOMY showed variations in metaphorical sources. In particular, the concept DISEASE was metaphorically conceptualized through 11 types of sources, showing the highest degree of variety in metaphorical sources among all the observed target frames. Komatsubara (2023) demonstrated that the variation in metaphors of DISEASE in the pandemic was both temporal and conceptual. The frequency of the metaphor DISEASE IS WAR in Japanese substantially decreased when the number of new infections greatly decreased and the state of emergency was lifted. In contrast, the metaphor DISEASE IS PERSON, which is illustrated by (10), reached its peak on the same day and gradually declined thereafter. Interestingly, the frequency of the metaphor DISEASE IS NATURAL DISASTER, as shown in (11), had increased since June in accordance with the increase in the number of new infections during the same period. The analysis of changes in preferred metaphors by Komatsubara (2023) indicates that various social factors can be relevant to variation in metaphors.

(10) Shin-gata koronauirusu=no mit-tsu=no *kao*=o shiro-u
new-type coronavirus=POS three-CLF=POS face=ACC learn-let.us
'Let's learn three *faces* of the new-type coronavirus.'
(Mari Yamaguchi, a junior high school student, May 25, 2020)

(11) Korona *saigai*=niyotte komat-teiru hito-tachi
coronavirus disaster=by suffer-PROG person-PL
'People who are suffering from the *disaster* [caused by] coronavirus.'
(Taro Yamamoto, Reiwa Shinsengumi, June 19, 2020)

### 3.2 Social variation in metaphors

Among the social factors relevant to the variation in metaphors, we focused on the occupational categories of the speakers, for which information was always available, even when most of the social backgrounds of the speakers were unspecified in the article. The label on the vertical axis in Figure 2 shows the numbers of metaphorical examples of occupational categories with more than 10 examples. The sums of the metaphorical utterances spoken by people involved in government and politics (*e.g.*, politicians and public administration workers) or hospitality and tourism (*e.g.*, restaurant workers, tour consultants, and hotel managers) explain more than 30% of the data. Frequently observed occupations with more than 20 examples included jobs related to education (*e.g.*, teachers) and healthcare (*e.g.*, doctors and medical scientists).

Figure 2 shows the proportions of the most frequent mappings in the data (i.e., DISEASE IS WAR, BUSINESS IS WAR, THOUGHT IS ACTION, and EMOTION IS ACTION; see Figure 1) for each occupational category. The percentage shown in the combined highlighted bar charts (*e.g.*, 60% in the case of retail) indicates the sum of the proportions of these four major mappings, while the remainder consists of the other less frequent mappings.

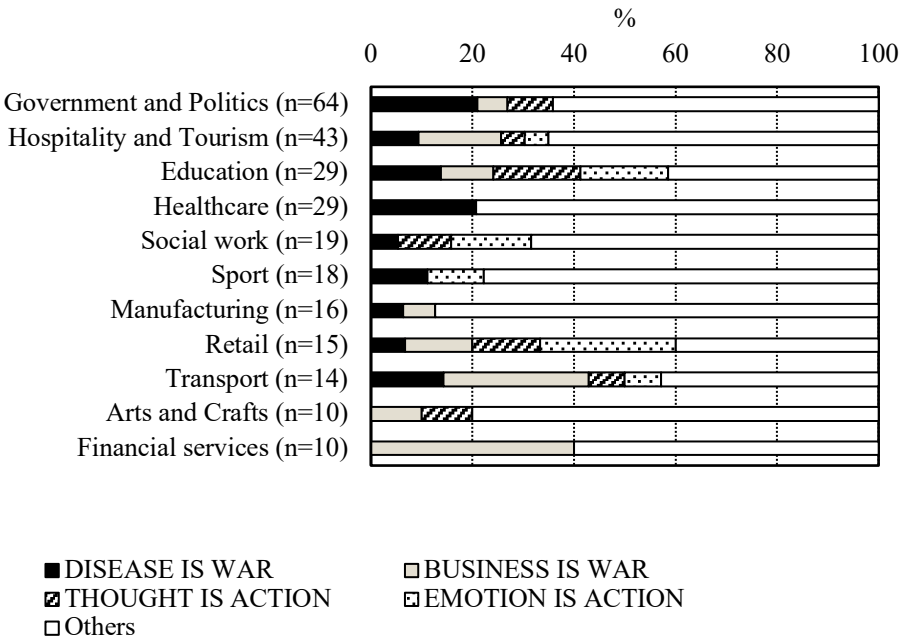



Figure 2: Ratios of the frequent mappings to the numbers of examples of each occupational category

Government, politics, and healthcare shared the most frequent mapping, DISEASE IS WAR, but a closer look reveals that the WAR metaphors in these two occupational categories differed in the featured aspects of WAR. Metaphorical utterances in government and politics typically highlighted 'attacking' and 'defeating' the coronavirus to 'win the war' against it, as illustrated in (2) and (12). In contrast, more defensive and passive aspects of WAR, such as 'protecting' in (13) and 'being assaulted' in (14), featured in healthcare.

(12) Juyouna *senryoku*=ga hiheishite=wa ikenai
important war.potential=NOM be.exhausted=TOP bad

'[It would be] bad that the important *war potential* would be exhausted.'

(Yoshinobu Nisaka, Governor of Wakayama Prefecture, April 16, 2020)

(13) Shokuin=mo kansen=kara *mamora*-naitoikenai
staff=TOP.also infection=from protect-must
'[We] also must *protect* the staffs from infection.

(Manager of an adult day care center in Sapporo, March 13, 2020)

(14) Kongo donna shin-gata kansenshou=ga *osotte*-kuru=ka
in.the.future what new-type disease=NOM assault-come=Q
wakara-nai
know-NEG
'[We] do not know what type of new disease will *assault* [us] in the future.'

(Takashi Nakano, professor at Kawasaki Medical School Hospital, April 16, 2020)

Not surprisingly, the metaphor BUSINESS IS WAR was common in hospitality and tourism, transport, and financial services, which primarily focused on its influence on the economic situation. This WAR metaphor tended to be "victim-oriented" and typically highlighted 'being damaged', 'healing', and 'surviving', as shown in (15) and (16).

(15) Inshokuten-gai=no *dameji*=wa oki
restaurant-town=POS damage=TOP big
'The restaurant streets suffered big *damage*.'

(Mitsuhiko Nishihara, Association for the Beppu Shopping District, March 13, 2020)

(16) Nantoka *ikinobi*-temorai-tai=to kangae-ta

somehow survive-BEN-want=QUOT think-PST

'[I] though that [I] wanted them to somehow *survive*.'

(Kiyoshi Ishii, All Sales Promotions & Effective Consultation, April 16, 2020)

Regarding the two ACTION metaphors, EMOTION IS ACTION was particularly frequent in education, social work, and retail. This metaphor was typically used in the context of supporting people who were depressed about the situation and trying to accept their feelings and encourage them, as illustrated in (9) and (17):

(17) Minna fuan=ya kunou=o *kakae*-nagara seiippai yat-teiru
everyone anxiety=or anguish=ACC hold-while as.possible do-PROG
'Everyone is doing their best *holding* anxiety or anguish.'
(Naoto Kanesaka, The Chief of Rokkoumichi Children's Library, April 16, 2020)

## 4. Discussion

The results of our survey showed that the preferred Japanese metaphors for the pandemic varied depending on the occupation of the speaker. In particular, war metaphors, the most frequent metaphorical source in our data, showed variations in foci in the source frame depending on the occupational category. This finding indicates that social contexts motivate metaphorical choices;

however, what contexts are involved in these occupational categories? In this section, focusing on the two types of war metaphors describing the pandemic, DISEASE IS WAR and BUSINESS IS WAR, we discuss how the social backgrounds of occupations of work motivate variation in foci of WAR metaphors in political, medical, economic, and commercial contexts.

### 4.1 War metaphors in political and medical contexts

Examples of the metaphor DISEASE IS WAR in government and politics amounted to 21% of the examples in the occupational category (see Figure 2), which explained approximately 40% of the total examples of the metaphor DISEASE IS WAR. This preference for WAR metaphors is likely to be motivated by common political strategies for dealing with serious social issues. Previous studies have reported that politicians tend to prefer WAR metaphors to raise various social issues such as drugs (Alexandrescu 2014), climate change (Asplund 2011), and poverty (Almond, Hoynes, & Schanzenbach 2011). Flusberg, Matlock, and Thibodeau (2018) argued that WAR metaphors are commonplace because they structure social issues by introducing widely shared schematic knowledge of WAR (*e.g.*, disease as an enemy, doctors and medical experts as commanders, healthcare teams as allies, and medical treatments as weapons) and activate a sense of urgency and anxiety associated with the vivid emotional valence of war. Using these functions of WAR metaphors to justify policies that require people to be socially constrained in various ways (*e.g.*, requests to temporarily close stores and stay home) probably motivates the

frequent use of WAR metaphors in political contexts.

While WAR metaphors were common in the data, only three examples explicitly mentioned 'winning the war' against the coronavirus. The three examples (2)(18)(19) that include the word *uchikatsu* 'defeating' were utterances by political leaders (*i.e.*, Yuriko Koike and Shinzo Abe). The speaker in (19) is an ordinary citizen, but it is evident that the reported clause is attributed to President Abe.

(18) Koronauirusu=tono *tatakai*=ni *uchikatte* gorin=o seiko-sase-tai
coronavirus=against fight=in defeat Olympic=ACC succeed-CAUS-want
'Winning the fight against the coronavirus, [I] hope the Olympics succeed.'

(President Shinzo Abe, March 13, 2020)

(19) Kondo=wa korona=ni *uchikat*-ta gorin=ni suru=to
next.time=TOP coronavirus=ACC defeat-PST Olymplic=as do=QUOT
ii-dashi-ta
say-start-PST
'Next, [President] said that the Olympics [will be the symbol of] defeating the coronavirus.'

(Akinori Shibata, part-time construction company employee, May 25, 2020)

Despite the apparently simple structure of the metaphor 'winning the fight against the enemy', it is not consistent with the frame of DISEASE in some respects. First, fighting is an active behavior that includes attacking the enemy,

and is not suitable for describing disease prevention, which requires people to be inactive, such as restrictions on movement and conversations. The concepts of fighting and preventing are opposite in terms of activeness and are difficult to connect metaphorically. Second, the concept of winning has no clear relationship with the target frame. The goal in the 'war' on the coronavirus is, ideally, to eradicate the coronavirus, but considering the influence on social life and economy, winning the war should correspond to restoring normal life (cf. Bates, 2020, pp. 9–10). It is very difficult to find in the WAR frame the complete set of elements that constitute the criteria of the normality. Therefore, focusing on the element of winning in the metaphorical source of WAR, although apparently persuasive, does not necessarily lead to a rational understanding of the pandemic. This kind of vagueness about winning might be one of the reasons why an explicit mention of winning was not observed for occupations other than politicians, who needed to show an integrated vision of the future to avoid conflicts of opinions during the pandemic.

As mentioned in the previous section, healthcare professionals tend to focus on more defensive and passive aspects of WAR, such as 'protecting' in (13) and 'being assaulted' in (14). The concept of protection was frequently mentioned in medical contexts, although not all speakers were healthcare workers, and 14 of 37 examples of DISEASE IS WAR included expressions that refers to protecting. Exactly what protecting means varied depending on the topics and social contexts. For example, *iryo-taisei* 'healthcare system' in (20) metonymically stands for healthcare workers, and *mamoru* 'protect' describes

to treat patients of the coronavirus. The same word in (21) means that the railway company takes measures to prevent new coronavirus infections in the train and keep customers safe.

(20) Korona-kansensho=kara inochi=o *mamoru* iryo-taisei=no
coronavirus-infection=from life=ACC protect healthcare-system=POS
jujitsu
enhancement
'[I put an emphasis on] enhancement of healthcare system to *protect* lives from the coronavirus.'
(Kenji Utsunomiya, former President of the Japan Federation of Bar Associations, June 19, 2020)

(21) Okyakusama=no inochi=o *mamoru* kodo=ga [...] yusensa-reru
customer=POS life=ACC protect action=NOM take.priority-PASS
'Action to *protect* lives of customers takes priority [above everything].'
(Osamu Shimada, President of Hokkaido Railway Company, April 16, 2020)

(22) Koronauirusu=kara chiki=o *mamori*-nuku-koto=ga
coronavirus=from community=ACC protect-accomplish-NMLZ=NOM
watashi=no shimei
1SG=POS mission
'My mission is to protect [our] community from the coronavirus.'
(A candidate Futtsu City Council member, April 16, 2020)

The examples of *mamoru* 'protect' above seem to show that protecting invokes clearer metaphorical correspondences than winning. However, it is

worth noting that (22), an example of this word by a politician, suggests that we cannot always find a clear correspondence in the target frame. The speaker says that his mission is to protect the community, but the word *chiki* 'community' is ambiguous between several metonymic senses. When it is interpreted as local citizens, protection corresponds to disease prevention. Another interpretation is that it refers to the local economy; in this case, protection involves efforts to prevent economic failure. There are other possible interpretations, such as helping healthcare system management. Therefore, (22) lacks specific conceptual content as a metaphor for describing the pandemic. Here, we can see the same attitude of politicians as in the case of the 'winning' metaphors: the vagueness of the goal.

In summary, metaphors that focused on winning were used only by political leaders, probably because they have no clear metaphorical correspondence in the target frame and are useful for setting a vague goal in governmental policies. By contrast, metaphors that focused on protection were used more frequently. They invoke clear metaphorical mappings that can be flexibly specified in each context. There was an example by a politician in which the protection metaphor had quite vague meaning, indicating how political purposes influenced politicians to select a specific metaphorical expression.

### 4.2 War metaphors in economic and commercial contexts

The pandemic has posed a serious threat to the economic situation and has

probably motivated the frequent use of the metaphor BUSINESS IS WAR in hospitality and tourism, transport, and financial services. Consequently, utterances about business and disease prevention share the same metaphorical vocabulary borrowed from WAR metaphors. However, they played different roles in the war. As we discussed above, political discourse highlights 'attacking' and 'defeating' the coronavirus to 'win the war.' Similar to the cases of WAR metaphors in healthcare, discourse in economic contexts tends to focus on more defensive aspects such as being 'damaged' as shown in (15) and 'surviving' as illustrated in (16). In addition, the metaphor of 'treatment by doctors,' which metaphorically means compensation by the government, were observed in economic contexts, as in (23) and (24).

(23) Keizai-katsudo=no *kaifuku*=o hakat-teiku hitsuyo=ga aru
economy-activity=POS recovery=ACC plan-go need=NOM exist
'[We] need to plan for *recovery* from economic [crisis].'
(Hodo Nakamura, Governor of Nagasaki, July 22, 2020)

(24) Kotekina hosho=de *teateshi*-tehoshi
public compensation=by treat-want
'[I] want [the government] to *treat* [me] by public compensation.'
(Manager of an Internet café in Kobe, April 16, 2020)

In the economic war against the coronavirus, while what winning means is not clear, losing straightforwardly means death: a bankruptcy. In this respect, WAR metaphors in the economic context are directed toward survival rather than

victory, and this orientation explains the productive metaphors for the defensive aspects of WAR.

These differences in foci between BUSINESS IS WAR and DISEASE IS WAR are probably motivated by the social backgrounds of commercial activities. The metaphor BUSINESS IS WAR is also productively used in conventional expressions (Audebrand 2010) because businesses tend to be competitive and ruthless. However, some of the common metaphorical mappings between business and war, such as COMPETITION BETWEEN COMPANIES IS CONFRONTATION BETWEEN ARMIES, BUSINESS TRANSACTIONS AND OPERATIONS ARE BATTLES, and PROFIT IS VICTORY IN A BATTLE (cf. López Maestre 2000) were not focused on in the metaphorical descriptions of the pandemic. The economic victory of the war in the pandemic was not making a profit but rather related to recovering from the economic slump. In addition, business rivals were allies in the pandemic, because hotels, restaurants, and railroad companies were all overwhelmed by the same enemy, that is, the stagnant economy caused by the coronavirus. In these respects, the metaphor BUSINESS IS WAR during the pandemic includes emergent extensions of the conventional mappings to adjust to the situational context. Frequent references to ‘damage’ and ‘treatment’ reflect this contextual modification of the mappings.

The element of enemy in the metaphor BUSINESS IS WAR is more complicated than in the metaphor DISEASE IS WAR. Generally, the enemy of the war in the pandemic was supposed to be the coronavirus, as illustrated in (25), but in fact the ‘damages’ in business were directly caused by restraints on commercial

activity, which aimed to prevent infection. Few utterances mentioned this fact in the data, and we found no example in which business people used the metaphor DISEASE PREVENTION IS ENEMY. An exception was (26), in which the speaker explicitly said that *kansen kakudai=no boshi* 'prevention of the spread of infection' caused economic loss. The mapping DISEASE PREVENTION IS ENEMY was by no means frequently expressed in commercial discourse. However, it should be noted that two conflicting concepts in the metaphor DISEASE IS WAR, that is, the coronavirus and the prevention of infection, can be mapped from the same concept of the enemy in BUSINESS IS WAR.

(25) Koyo=sura kibishi [...] uirusu=ni *make*-nai ketsui=o
employment=even difficult virus=by lose-NEG determination=acc
katame-tai
trengthen-want
'Even [keeping] employment [will be] difficult, [so I] want to determine not to *lose* to the virus.'

(Mitsumasa Ueno, Chair at a labor union in Yamagata, March 13, 2020)

(26) Kansen kakudai=no boshi-o tsuyome-reba keizai=ni
infection spread=POS prevention-ACC intensify-if economy=to
yori *dageki*-o ataeru
more blow-ACCgive
'If prevention of the spread of infection is intensified, [it will] give the economy a serious *blow*.

(A leader of the Tokyo Metropolitan Government, June 19, 2020)

Even though disease prevention was not explicitly described as the enemy, metaphors of damage, such as *dageki* 'blow' in (26) and *dameji* 'damage' in (15), imply that the economic damages was caused by disease prevention. In addition, it was the government that requested the citizens to take measures to prevent infection, and it was the citizens who took these measures. Therefore, it is conceptually implied that metaphors of damage indirectly involve mappings such as GOVERNMENT IS ENEMY and CITIZENS ARE ENEMIES. The measures against the pandemic were, of course, caused by the coronavirus; therefore, the mapping DISEASE PREVENTION IS ENEMY does not contradict the mapping THE CORONAVIRUS IS ENEMY. However, in contrast to the simplified schema of war in DISEASE IS WAR, the metaphor BUSINESS IS WAR presupposes the following causal chain: the spread of the coronavirus > the government's request for measures for prevention of infection > the citizens' practice of prevention > the restraint of commercial activities > economic loss in business. The metaphor BUSINESS IS WAR during the pandemic can potentially interpret every element of the causal chain as an attack by the enemy. For example, the mapping GOVERNMENT IS AN ENEMY is consistent with the metaphor, whereas it contradicts the mapping GOVERNMENT IS A DOCTOR, such as in (24).

As discussed above, the metaphor BUSINESS IS WAR potentially interprets the government, and even citizens, as the enemy. The pandemic situation involved a social conflict for business people in which the government is both the 'enemy' and an 'ally'. The less frequent use of the metaphorical enemy reflects this conflict: Business people, probably unconsciously, obscured who the

enemy was so as not to emphasize the social conflict in the war on the coronavirus. The metaphor just highlighted ‘damages’ and ‘recovery’ in economic and commercial contexts, and places the aspect of ‘defeating’ the ‘enemy’ in the background.

## 5. Conclusion

In this study, we empirically investigated social variation in metaphors of the pandemic in Japan in terms of occupation, based on an analysis of metaphorical utterances observed in direct quotations extracted from newspaper articles featuring the coronavirus. The target frames DISEASE, BUSINESS, EMOTION, and ECONOMY showed conceptual variations in metaphorical sources. In particular, the concept DISEASE was metaphorically conceptualized through 11 types of sources. Two kinds of war metaphors, DISEASE IS WAR and BUSINESS IS WAR, were the most frequently used in the data. First, the metaphor DISEASE IS WAR was frequently used in government, politics, and healthcare. Interestingly, the metaphor of ‘protection’ was common while the metaphor of ‘win’ was used only by political leaders, who intended to project an integrated vision of the future while avoiding conflicts of opinions. Second, the metaphor BUSINESS IS WAR was preferred in hospitality and tourism, transport, and financial services, and the metaphor of ‘damage’ was frequent in economic and commercial contexts. Highlighting only economic losses in commercial contexts might

reflect the attitudes of business people who unconsciously obscured what should be blamed during the pandemic.

The pandemic caused radical changes in social life, and metaphorical utterances could reflect these changes. Two frequent metaphors in our case, DISEASE IS WAR and BUSINESS IS WAR, are also often found in conventional expressions in medical and commercial contexts. However, we found that the metaphorical foci during the pandemic were different from those in conventional usage, and these two metaphors included emergent extensions from standard metaphorical mappings. Their emergent properties were closely linked to the social contexts of a pandemic. Our study illustrated that the analysis of social factors, including occupation, is a useful approach to explore variations in the foci of a metaphor as well as variations in the types of metaphors.

## Abbreviations

| | |
|---|---|
| 1 | fisrt person |
| ACC | accusative |
| BEN | benefactive |
| CAUS | causative |
| CLF | classifier |
| COND | conditional |

HON honorific

NEG negative

NMLZ nominalizer

NOM nominative

PASS passive

PFV perfective

PL plural

POS possessive

PROG progressive

PST past

PURP purposive

Q question particle

QUOT quotative

SG singular

TOP topic

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