



# Metaphors and trauma: An image schematic analysis of symptom-specific metaphors

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## Abstract

Metaphor analysis is known to be insightful for understanding how psychological trauma is conceptualized. While previous research on trauma metaphors mainly examined the subjective experience of general traumatic feelings, little has been said about post-traumatic symptoms of clinical significance. This paper investigates symptom-specific metaphors produced by five trauma victims, who were exposed to the 2019–2020 social unrest in Hong Kong and met the diagnostic criteria of Acute Stress Disorder (ASD) as assessed by the Stanford Acute Stress Reaction Questionnaire (SASRQ). Sixty-four symptom-specific metaphors were categorized according to the post-traumatic symptoms they described and examined for their image schematic groundings. Although the participants had no professional knowledge about post-traumatic symptoms, they still described the feelings using experientially distinct constructs. The findings reveal the possibility for symptomatological manifestations to be captured in metaphorical language and distinguished at the image schematic level, highlighting the complementary value of symptom-level analysis in cognitive semantic analysis of trauma metaphors.

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**Keywords:** Trauma; Post-traumatic symptoms; Symptom-specific metaphors; Image schemas

## 1. INTRODUCTION

Given the potential for metaphors to symbolize and interpret difficult emotions (McMullen, 2008), the use of metaphors in mental health communication has long been a topic of interest for linguistic and therapeutic researchers. Existing studies have offered extensive accounts of metaphors about various emotional disorders, such as depression (Pritzker, 2007; Charteris-Black, 2012), anxiety (Woodgate et al., 2021; Yu & Tay, 2020), and trauma (Costa & Steen, 2014; Qiu & Tay, 2022; Tay, 2014). Despite their inherently psychological nature, these emotional disorders were

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often examined from a cognitive semantic perspective, focusing on how people talk and think about the phenomena (Kövecses, 2004). The interaction between metaphor use and clinical features of emotional disorders remains intriguingly underexplored.

While clinical definitions of emotional disorders entail more complex diagnostic criteria and psychometric parameters than do folk theories, the clinical distinctions among symptoms are only subconsciously perceptible but not conceptually distinguishable to patients who have no background in psychology or psychiatry. A theoretically interesting and clinically relevant question is whether different symptomatological manifestations of a given emotional disorder could be distinguished from their use of metaphors. Taking trauma metaphors as an example, this study investigates the interactions between metaphor use and the experience of specific post-traumatic symptoms. Metaphors produced by five trauma victims who met the diagnostic criteria of Acute Stress Disorder (ASD) were categorized based on their relevance to specific post-traumatic symptoms and examined for their image schematic groundings. The primary research objective is to investigate whether and how the experience of post-traumatic symptoms could be distinguished from the use of image schematic metaphors. The secondary objective is to show how the analysis of symptom-specific metaphors could provide new insights into the understanding of trauma and mental health communication in general.

In what follows, we will first provide an overview of previous research on trauma metaphors and highlight post-traumatic symptoms as a neglected but potentially important factor underlying the use of trauma metaphors. We will then discuss how image schematic analysis could be used to advance research in this direction. After introducing data and methods, we will present the results of symptom-level metaphor analysis, interpret major patterns found for each symptom, and conclude the paper by discussing the implications, limitations, and future directions.

## 2. LITERATURE REVIEW

### 2.1. *Metaphors and traumatic experiences*

Psychological trauma refers to the experience of overwhelming negative emotions after experiencing or witnessing actual or threatened death, injury, or violence. Traumatic events could be natural disasters like earthquakes and tsunamis, or events caused by human behaviors such as rape, traffic accidents, and social unrest. Typical post-traumatic reactions include flashbacks, nightmares, and physical reactions such as headaches and nausea. Trauma victims might also experience a mixture of many different emotions, including but not limited to anxiety, depression, and confusion, and developmental disorders such as adjustment disorder, ASD, and Post-traumatic Stress Disorder (PTSD) (American Psychiatric Association, 2013).

When faced with intense emotions that are difficult to express, people often use metaphors to bridge the gap between what they are able to express with words and what they are experiencing in the mind (Fine et al., 1973; McMullen, 2008). This also applies to the description of trauma. For example, as noted by Wilson and Lindy (2013), trauma victims might describe their sense of deprivation as “I am empty inside” and compare the difficulty in engaging meaningful interpersonal communication to “No one can get close to me” (p.45). “Empty inside” and “get close to”, which are everyday experiences with physically concrete properties, are used as metaphor vehicle terms (Cameron & Maslen, 2010) to help verbalize the abstract, elusive post-traumatic feelings (i.e., the target topics). Such metaphors also draw out basic inferential structures that could be exploited for further interpretations of the traumatic experiences.

Previous research shows that trauma victims’ metaphor use could convey implicit but therapeutically relevant information, including but not limited to their physical experiences, emotional feelings, body sensations, and the attendant cognitive changes. For example, Littlemore and Turner (2020) illustrated how people with the experience of pregnancy loss use metaphors to make sense of the alterations in embodied experience, the disrupted relationship between mind and body, and the experience of two different, conflicting realities. Costa and Steen (2014) compared the use of metaphors in the description of traumatic experience and the subsequent Post-traumatic Growth (PTG), highlighting the potential for metaphor usage patterns to reflect the dynamics of trauma and the recovery process. There are also numerous studies that show trauma victims’ preferred choices of metaphor vehicle terms could point toward specific aspects of traumatic experiences that are of therapeutic value (Stott et al., 2010; Wilson & Lindy, 2013; Tay, 2014; Tay & Jordan, 2015).

This strand of research yields rich descriptions about the experiential features of trauma, providing valuable insights into the use of trauma metaphors in the therapeutic context. However, trauma-related metaphors examined by the abovementioned studies were mostly accessed from the cognitive-semantic perspective. Since the focus is largely on how people think and talk about ostensible aspects of their traumatic experiences, the analyses were very much restricted to the categorization of vehicle terms and target topics based on semantically meaningful patterns (Cameron et al., 2009). While trauma victims could differ considerably in terms of overall degrees of trauma and more

specific clinical manifestations, whether and how their metaphor use would interact with psychometrically validated features of trauma has received only limited attention.

## 2.2. Metaphors and clinically validated features of trauma

By juxtaposing linguistic data and psychometric data, a recent body of research shows that trauma victims' metaphor use is closely associated with clinically validated features of trauma. From the perspective of clinical psychology, trauma can be evaluated in terms of severity using psychometric questionnaires such as Acute Stress Disorder Interview (ASDI) (Bryant et al., 1998) and Post-traumatic Diagnostic Scale (PDS) (Foa et al., 1997) (see Orsillo, 2001 for a review). The subject's traumatic experience is measured using multiple questionnaire items, and each of which represents a specific diagnostic criterion or clinical symptom of trauma. The final score is compiled by adding all item scores; the higher the total score, the more severe the traumatization. The study conducted by Qiu and Tay, (in press) showed that trauma victims' preferences for specific metaphor variables were closely associated with the speakers' overall degrees of traumatization: people with higher degrees of trauma were significantly more likely to use negative metaphors and self-related metaphors, whereas those traumatized to a lesser extent generated significantly more metaphors about others and the surrounding life situations.

Trauma can also be evaluated based on a series of clinical symptoms. For example, the Stanford Acute Stress Reaction Questionnaire (SASRQ) evaluates the subject's acute stress symptoms on five subscales: dissociation, re-experiencing, avoidance, anxiety and hyperarousal, and impairment in functioning (Cardeña et al., 2000). The dissociation subscale examines whether and how the subject's perception and awareness of self, others, and the surrounding environment are altered by the traumatic experience; the re-experiencing subscale measures the extent to which the subject is troubled by the recurrence of trauma-related memories and feelings; the avoidance subscale examines the subject's tendency to avoid traumatic-related stimuli, such as places, people, attendant thoughts and feelings; the anxiety and hyperarousal subscale examines whether the subject experiences increased anxiety, sensitivity, and physiological arousal; lastly, the subscale of impairment in functioning measures how the subject's cognitive, and social functioning has been affected by the traumatic event. While people exposed to the traumatic event might develop varying degrees of trauma, they need to experience the symptoms at a certain level of severity to meet the diagnostic criteria of ASD or PTSD.

As people with ASD or PTSD are usually well aware of the traumatic nature of their experience and have no difficulty distinguishing between trauma-related emotions such as depression, anger, and confusion, most of them do not have adequate knowledge about specific post-traumatic symptoms and their clinical manifestations. In other words, the symptoms may not be distinguishable to laypeople with no background in clinical psychology or psychiatry. Nevertheless, the experience of post-traumatic symptoms still emerges as an essential factor underlying trauma victims' metaphor use. A correlational study conducted by Qiu et al., (under review) showed that people suffering from different post-traumatic symptoms tend to have distinct preferences for vehicle terms and target topics. For example, people who scored highly on the anxiety and hyperarousal subscale were more likely to metaphorize about themselves in relation to the social situation and their thinking processes, whereas those more troubled by impairment in functioning were more inclined to use PHYSICAL ACTIVITY as the metaphor vehicle term.

By incorporating psychometric variables in metaphors analysis, this body of research revealed the dynamics of trauma metaphors at the symptom level, highlighting clinical features of trauma as an often overlooked but nonetheless important factor underlying metaphor use. Nevertheless, the emphases were mainly placed upon quantitative metaphor usage patterns rather than cognitive semantic features of trauma metaphors. The analyses also had a relatively broad focus on trauma victims' metaphor use in general, without going deep into expressions that are directly relevant to the post-traumatic symptoms. Whether and how clinically validated features of trauma could be discerned from qualitative aspects of symptom-specific metaphors remains an interesting research question.

## 2.3. Image schematic analysis of symptom-specific metaphors

To investigate the qualitative features of symptom-specific metaphors, we need to conduct a correspondent analysis (Tay, 2016) that juxtaposes psychotherapeutic observations with findings derived from cognitive semantic analysis. However, such analyses are very likely to be faced with the conflict between a relatively small sample size and a potentially large number of analytic categories. Compared with purely cognitive semantic analyses of trauma metaphors, which usually impose no special requirement for the recruitment of trauma victims and the selection of linguistic expressions, symptom-level analysis of trauma metaphors adopts stringent criteria for the participants' experience of specific symptoms and the clinical relevance of their linguistic expressions. Therefore, this type of research often faces greater difficulty in obtaining an appropriate sample size. Moreover, while the study of general trauma metaphors usually

focuses on an emerging set of semantic themes that best summarize the data, the categorization of symptom-specific metaphors is simultaneously informed by a both emergent semantic themes and prescribed clinical categories; this means the number of metaphors under each clinical category and/or semantic category could be even smaller. To resolve the conflict between the small sample size and a potentially large number of analytic categories, an efficient coding scheme is needed to provide convenience for an efficient coding scheme that provides convenience for both the study of individual metaphors and cross-category comparisons.

A feasible solution is to categorize symptom-specific metaphors according to underlying image schemas. Image schema refers to meaningful cognitive structures that arise from embodied experiences in human life (Lakoff, 1987; Johnson, 1987). The structures serve as important building blocks for people to organize their knowledge and reason about the world, providing a robust source of metaphors (Johnson, 1987). For example, the CONTAINER schema is motivated by the physical experience of getting in and out from architectures or clearly delineated spaces such as architecture, cabinets, and clothes, and using physical parts like the stomach and mouth as containers of food, water, and air (Johnson, 1987). The schema is widely observed in metaphors about emotional states and thinking processes. For example, the metapho “I am empty inside” foregrounds the CONTAINER-like properties of HEART and its potential to be filled or emptied, whereas “No one can get close to me” instantiates the CONTACT schema, which arises from the experience of physical interactions between humans (Wilson & Lindy 2013, p.45).

While metaphor analysis from the cognitive semantic perspective can reveal important information about embodied knowledge, cultural knowledge, and individual-specific experiences (e.g., Kövecses, 2005; Cameron & Maslen, 2010; Tay, 2013), the study of image schemas shows more concern for how universal embodied experience structures human thinking and reasoning. For example, Yu (2005) and Pritzker (2007) noted that Mandarin Chinese speakers often conceptualize HEART as the container of both emotions and thoughts, whereas western cultures are more likely to draw a functional distinction between heart and brain/head, taking the former as the container of feeling and the latter as the center of thoughts. However, if we reduce the expressions to the image schematic level, we can find both to be instances of the CONTAINER schema. At this level, potential cultural and individual differences are downplayed, but universal and relatively invariant aspects of human experiences are highlighted. Therefore, metaphor analysis at the image schematic level is deemed more suitable for exploratory research that aims to identify generalizable patterns rather than highlight particularities at the individual level. Moreover, because image schemas are in theory a small and finite set of perceptual and sensory structures, they could also be more tractable than conceptual metaphors, which may have proliferative categories at different levels of abstraction (Tay, 2021).

For the present study, an image schematic analysis will be conducted to explore trauma victims' use of symptom-specific metaphors. Details about the background, data, and methodology are provided in the next section.

### 3. DATA AND METHODS

#### 3.1. Background

This study is part of a larger project on metaphor use by trauma victims of the 2019–2020 Hong Kong social unrest. The social unrest started off in June 2019 as mass protests against an extradition bill proposed by the government of the Hong Kong Special Administrative Region (HKSAR), which aimed to transfer fugitives from Hong Kong to jurisdictions that were not included in existing laws, including the Chinese Mainland and Taiwan. The protests soon escalated into intense violence and destruction, with the primary target being the HKSAR government and its supporters, Hong Kong police, and mainland Chinese immigrants. After the social unrest, the prevalence of post-traumatic symptoms among Hong Kong residents rose from 16.6% to 31.6%, and the rate of suspected PTSD related to the social unrest was 12.8% (approximately 810,000 people) (Ni et al., 2020).

The larger project was conducted from mid to late December 2019, two to four weeks after a large-scale protest. Forty-six mainland Chinese who were either working or studying in Hong Kong took part in the project. Due to the unstable social situation and participants' concerns for their personal safety, participation was solicited from a social media platform commonly used by mainland Chinese. All had met the criteria for trauma exposure by having witnessed or experienced a highly distressing event such as physical assault, destruction of property, and violence to other people.

All participants were recruited on a voluntary basis. They were first invited to a semi-structured interview to talk about their subjective experience during the social unrest, and then have their degrees of trauma measured using SASRQ (Cardeña et al., 2000). The interviews and questionnaires were administered online. The questionnaire was administered after the interviews so that their accounts would not be influenced by the description of symptoms in the questionnaire items. The design of interview questions and data coding were accomplished in collaboration with a registered therapist of the Chinese Psychological Association (CPA), who has 20 years of experience in trauma treatment. Assurances of anonymity, confidentiality, and the right to withdraw were ensured for all participants. The general research

purpose and procedures were carefully explained, and written informed consent was obtained. Participants were guaranteed access to the abovementioned therapist if they reported negative interview experience and the need for counseling support. Nevertheless, none of them raised the need at the completion of the study.

Since different symptoms of the same mental disorder are often strongly correlated with each other (Borsboom & Cramer, 2013), it is likely that people who meet the diagnostic criteria of ASD experience the symptoms in a way that is qualitatively different from those below the diagnostic threshold. To capture metaphors that are sufficiently representative of the symptoms in the clinical sense, the present study focuses on the five interviews with people who had met the diagnostic criteria of ASD as assessed by the SASRQ. Details about the interview, the psychometric data, and the current dataset will be provided in the following sections.

### 3.2. The interview data

In the semi-structured interviews, participants were asked to describe their emotional experiences during the social unrest in as much detail as possible. The interview questions were worded in an emotionally neutral and open-ended way, and none was suggestive of any specific post-traumatic symptoms or contained metaphorical descriptions. The interviews were conducted by the first author of this paper, who received postgraduate education in cognitive linguistics and a nationally recognized qualification in psychotherapy from the Chinese mainland. The language was MANDARIAN CHINESE, the home language of both the interviewer and the interviewees. All interviews were recorded with informed consent from the interviewees. The interviews lasted around 21.72 minutes, and the whole dataset consisted of over 178,000 Chinese characters (about 3,870 per interview). The participants had no background in psychology or psychiatry.

### 3.3. The psychometric data

SASRQ is a 30-item self-report on post-traumatic experiences developed based on DSM-IV (Cardeña et al., 2000) (see Orsillo, 2001 for the full-scale). The questionnaire measures the subject's acute stress reaction on five different clinical symptoms, including dissociation, re-experiencing, avoidance, anxiety and hyperarousal, and impairment in functioning. The clinical features of the symptoms have been introduced in the previous section. Each symptom is reflected by one or more diagnostic criteria and measured by a number of questionnaire items (see Table 1, adapted from Orsillo, 2001).

The subject's degree of trauma was rated continuously on a six-point Likert scale from 0 (not experienced) to 5 (very often experienced), with higher scores indicating higher degrees of traumatization. The ratings could also be converted to dichotomous data to account for the presence of symptoms: ratings between 0 and 2 are coded as 0 (non-presence), and ratings above 3 are coded as 1 (presence). To receive a diagnosis of ASD, the subject needs to meet at least three diagnostic criteria proposed for dissociation and one for each of the remaining symptoms (Cardeña et al., 2000). In other words, people who receive a diagnosis of ASD meet the diagnostic criteria of all five symptoms simultaneously. The

Table 1  
Clinical features of the five post-traumatic symptoms and corresponding questionnaire items.

Symptom	Clinical features	SASRQ items
Dissociation	alteration in perception and awareness of self, others, and the surrounding environment	5 diagnostic criteria, 10 items: Numbing: 20, 28; Reduction in awareness of surroundings: 4, 24; Derealization: 3, 18; Depersonalization: 10, 13; Dissociative amnesia: 16, 25.
Re-experiencing	recurrence of trauma-related memories, thoughts, feelings, dreams, etc.	1 diagnostic criterion, 6 items: 6, 7, 15, 19, 23, 29
Avoidance	the tendency to avoid traumatic-related stimuli, such as places, people, thoughts, and feelings	1 diagnostic criterion, 6 items: 1, 2, 8, 12, 21, 27
Anxiety and hyperarousal	increased anxiety, sensitivity, and physiological arousal (e.g., difficulty in sleeping, poor concentration, hypervigilance)	1 diagnostic criterion, 6 items: 5, 11, 14, 17, 22, 30
Impairment in functioning	difficulty in engaging in social or interpersonal interactions, or in performing everyday actions	1 diagnostic criterion, 2 items: 9, 26

Chinese version of SASRQ was translated by Hou (2009). Both the original and the translated questionnaire were reported to have good reliability and validity (Cardeña et al., 2000; Luo et al., 2021).

### 3.4. The current dataset

The larger project included 33 females and 13 males, among which four females and one male met the diagnostic criteria of ASD and were selected for the present study. The ASD participants' average age ( $M = 26.4$ ,  $SD = 2.51$ ) was comparable to the sample mean ( $M = 26.6$ ,  $SD = 4.52$ ). Their average SASRQ score was 82.80 ( $SD = 17.12$ ), which was significantly higher than that of non-ASD participants (Mean = 33.76,  $SD = 18.36$ ),  $t(44) = 5.672$ ,  $p < .001$ . Although the average length (5,200 Chinese characters per interview) of ASD interviews was not significantly different from that of non-ASD interviews,  $t(44) = 1.940$ , ( $M = 3,699$  Chinese characters),  $t(44) = 1.940$ ,  $p = .059$ , the average number of metaphor vehicle terms ( $M = 64.4$ ,  $SD = 30.05$ ) per interview was significantly higher than that of non-ASD interviewees ( $M = 32.00$ ,  $SD = 23.04$ ),  $t(44) = 2.878$ ,  $p = .006$ . The frequency of metaphors per thousand characters of ASD interviews was also significantly higher ( $M = 12.02$ ,  $SD = 3.54$ ) than that of non-ASD interviews ( $M = 8.54$ ,  $SD = 3.45$ ),  $t(44) = 2.131$ ,  $p = .039$ .

#### 3.4.1. Metaphor identification

Metaphors in the interviews were identified using the discourse dynamics approach (Cameron & Maslen, 2010), which is recognized as a clearly operationalized and reliable method for identifying mental health metaphors (Mathieson et al., 2016). Metaphor vehicle terms were identified based on contrast and transfer between basic and contextual meanings. *The Contemporary Chinese Dictionary* (the 7th edition) was used to assist the identification of basic meanings. The metaphor identification procedure is illustrated by example (1) below (vehicle term underlined):

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(1) 在我二十多年的人生里面, 应该是没有试过在短短的时间内情绪或者是心理状态会经历那么大的起伏。

'More than 20 years have passed in my life, I have never experienced such great rises and falls in emotions within such a short period of time.'

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According to the dictionary, the basic meaning of “起伏(*qǐ fú*, *rise and fall*)” is “changes in vertical height”. The contextual meaning is the drastic emotional changes experienced by the speaker. Because the contextual meaning can be understood based on an extension of the basic meaning, the word is identified as a vehicle term of metaphor.

All metaphor vehicles were identified by the researcher who conducted the interviews. As the discourse dynamics approach identifies metaphor vehicle terms that stretch beyond single lexical units, quantitative reliability measures on clearly delineated analytical units are seldom used. For the present study, problematic cases with ambiguous contextual meanings were resolved through discussion with other experienced metaphor researchers following Cameron et al. (2009). The five selected interviews included a total of 322 metaphor vehicle terms.

#### 3.4.2. Coding of symptom-specific metaphors and image schemas

Because the coding needs to provide informed choices about image schemas while remaining sensitive to relevant post-traumatic symptoms, cross-disciplinary collaboration is needed. The abovementioned therapist was invited to work with the first author of this paper. Prior to the coding, the two raters had in-depth discussions about the definition of metaphors and image schemas and the identification procedures using linguistic examples from previous research works (e.g., Johnson, 1987; Cameron & Maslen, 2010). The two raters also went over the diagnostic criteria for all five symptoms assessed by the SASRQ.

All 322 metaphor vehicles were then examined regarding their relevance to the five post-traumatic symptoms and their image schematic groundings. The coding included three steps:

Firstly, to narrow the scope of analysis down to potentially symptom-related metaphors, metaphor vehicles that were not directly relevant to post-traumatic feelings were identified and deleted from the list. For instance, example (1) discussed above provides a vivid account of the speaker's perception of the traumatic event; however, it is not directly relevant to any specific post-traumatic symptoms and therefore deleted from the list.

Secondly, the remaining metaphor vehicles were examined in terms of the exact symptom they describe based on the diagnostic criteria of ASD. While some emotional feelings were directly triggered by the traumatic experience, they did not necessarily show psychopathological features of the five symptoms measured by SASRQ; descriptions of such feelings were further deleted from the list. This step yielded 64 metaphor vehicles that were directly relevant to the five symptoms.

Table 2  
Johnson's (1987, p.126) list of image schemas.

CONTAINER	BALANCE	COMPULSION
BLOCKAGE	COUNTERFORCE	RESTRAINT REMOVAL
ENABLEMENT	ATTRACTION	MASS-COUNT
PATH	LINK	CENTRAL-PERIPHERY
CYCLE	NEAR-FAR	SCALE
PART-WHOLE	MERGING	SPLITTING
FULL-EMPTY	MATCHING	SUPERIMPOSITION
ITERATION	CONTACT	PROCESS
SURFACE	OBJECT	COLLECTION

Lastly, symptoms-specific metaphor vehicles terms were coded using the list of image schemas proposed by Johnson (1987) (summarized in Table 2). To maximize the advantage of juxtaposing linguistic and therapeutic perspectives while avoiding “motivated looking” (Sarangi & Candlin, 2001) from different disciplines, for each of the three steps the coders first worked independently, and then met to discuss problematic cases until all inconsistencies were resolved. It is possible that a metaphor instantiates a “compound” of several simpler image schemas (Kimmel, 2005, p.287) or be identified with different image schematic groundings. As the study of image schematic metaphors in mental health communication focuses not only on the linguistic features of the expressions but also on therapeutically relevant factors such as the speaker's immediate emotions, thoughts, and communicative intentions, for the present study, the image schema that best captured the speaker's local expressive needs was chosen.

After the coding was completed, correspondent analysis (Tay, 2016) was used to interpret the relationships between symptom-specific metaphors and the underlying image schemas; observations derived from the psychotherapeutic perspective (step 1 and step 2) were juxtaposed with findings of linguistic discourse analysis (step 3). This would provide a means to understand whether and how metaphors about different post-traumatic symptoms form recognizable patterns at the image schematic level, and how the patterns are related to the symptoms' psychopathological features.

#### 4. FINDINGS AND DISCUSSION

This section discusses the image schemas identified for the five post-traumatic symptoms. Frequencies of metaphors of each symptom and each image schemas are summarized in Table 3.

Table 3  
Frequencies of image schemas for each post-traumatic symptom.

Symptom	Image schemas	Frequency
Dissociation	DISABLEMENT (9)	17
	SPLITTING (5)	
	SUPERIMPOSITION (3)	
Re-experiencing	CONTAINER (8)	18
	LINK (2)	
	ATTRACTION (2)	
	COMPULSION (4)	
	DISABLEMENT (1)	
	SUPERIMPOSITION (1)	
Avoidance	LACK OF CONTACT (4)	5
	MASS-COUNT (1)	
Anxiety and hyperarousal	COMPULSION (15)	22
	CYCLE (5)	
	SCALE (1)	
	OBJECT (1)	
Impairment in functioning	MASS-COUNT (2)	2
	Count	

#### 4.1. Dissociation

Dissociation refers to “disruption of and/or discontinuity in the normal integration of consciousness, memory, identity, emotion, perception, body representation, motor control, and behavior (American Psychiatric Association, 2013, p.291)”. People suffering from dissociation might experience a disconnection between the mind and the body, detachment from the self and emotions, or a feeling that people and the surrounding environment are unreal. Seventeen metaphors were found for this symptom, and the image schemas form three major categories, including DISABLEMENT, SPLITTING, and SUPERIMPOSITION.

While the ENABLEMENT schema is characterized by “a felt sense of power to perform some action”, DISABLEMENT as its opposite highlights the “lack of power” (Johnson, 1987, p.47) to manipulate or move an object. In the context of trauma, it captures the subject’s perceived deviation from or loss of the common sense of self. This image schema was instantiated by nine metaphor vehicle terms. The most frequently used metaphor vehicle was “无力(*wúli*, *strengthless*)”, which conceptualizes the loss of control over current life situations as the loss of physical strength. This schema is illustrated by example (2).

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(2) 愤怒是有一些, 但更多的是无力, 因为我不知道朝谁愤怒去。

‘I do feel angry, but not as much as strengthless, because I don’t know to whom to express the anger.’

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SPLITTING and SUPERIMPOSITION, instantiated by five and three metaphor vehicles respectively, are structurally alike in that both involve the manipulation of two entities. This is consistent with the sense of disconnection and discontinuity emphasized by the APA definition of dissociation. However, more nuanced differences emerge when we look into the composition of the schemas. The SPLITTING schema depicts the process of separating one single object into two different parts. Example (3) below is illustrative:

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(3) 我仿佛身体里面有两个小人, 然后一个小人喊着说: “你要冷静地看一看这边啊, 你看一看这些民主社会”之类的, 另外一边就在说: “你就是在读一年书而已, 可是这一年已经被损失了这么多”。

‘It feels like there are two little guys in my body, and one is shouting: “you should be calm, see what the democratic society” and the like. But the other one says: “you are just doing an MA here for a year, but you have lost so much”.’

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This metaphor provides a sense of identity clash that is typically observed for dissociative symptoms (Coons, 1988). The self, usually perceived as an integral whole under non-traumatic conditions, is now split into “two little guys (两个小人, *liǎnggè xiǎorén*)” holding opposing opinions, with one representing the interviewee’s rational thinking from an emotionally detached perspective, and the other standing for her as an emotional and social being, expressing concerns over her study.

In contrast, SUPERIMPOSITION describes two entities that are perceived as different at the very beginning. Take the following example:

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(4) 我就算试图去理解他们, 也没有办法接受发生在我身上的这种. . . . 就是我成了一个他们社会冲突的无辜(受害)者, 这一点让我没有办法释怀。

‘Even if I try to understand them, I still can’t accept what happened on to my body. . . . . it’s just like that I became an innocent victim of their social conflict, this is what I can’t get rid of.’

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The speaker first describes the altered sense of self as something that happened right onto her body and then interprets this metaphor by comparing herself to “an innocent victim”, so the traumatic feeling is compared to a new, unwanted self being superimposed onto her original self. This expression reflects the speaker’s failure to assimilate the traumatic experience into “existing meaning schemes” (Janet, 1898, as cited in van der Kolk & Ducey, 1989, p.270), which is also a characteristic manifestation of dissociative symptoms.



#### 4.2. Re-experiencing

The re-experiencing symptom is characterized by the re-occurrence of trauma-related memories and feelings. Eighteen metaphors were directly relevant to this symptom, with CONTAINER, LINK, and FORCE-related schemas like COMPULSION and ATTRACTION being the majority.

Eight metaphor vehicle terms were structured by the CONTAINER schema. Similar to the containment model for depression established by Charteris-Black's (2012), the self could be experienced as either the content within the container of emotion or a container filled with emotional feelings. Take the following examples:

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(5) 觉得特别不爽, 但是你又没有办法去讲, 心里就一直憋着气。

'You feel very angry, but there's no way you can express your thoughts, so you are always feeling short-breathed with some gas suppressed in my heart.

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(6) 我自己甚至都可能会意识到我是不是就像 (进入)一个黑洞一样, 被负面情绪吸进去了。

'Even I myself realized that, if I was just like (in) a black hole, if I was absorbed by negative emotions.'

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Example (5) highlighted the persistent nature of trauma-related feelings. Anger is described using a conventional metaphor of “气(*qi*, *gas*)”, and the recurrence of anger is conceptualized as gas being suppressed in a container. Example (6) emphasized the overwhelmingness of the re-experiencing symptom, with trauma-induced negative feelings being a “black hole (黑洞, *hēi dòng*)” that can absorb everything in the vicinity.

The lingering nature of the symptom was also depicted by two vehicle terms using the LINK schema, which structures trauma as something that is enduringly linked to the self. In example (7), the traumatic experience is described as something that was so tightly connected to the self that it even became an intrinsic part of the self. The inability to get rid of the traumatic experience is described as the inability to “cut it off (割掉, *gēdiào*)” from the self:

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(7) 你没有办法完全去割掉这个东西, 好像一旦出现了, 你就永远会记住。

'You can never cut this thing off from you, once it appears, you will remember it forever.'

---

FORCE-related schemas like ATTRACTION and COMPULSION (instantiated by two and four vehicle terms, respectively) also contributed to the conceptualization of the re-experiencing symptom. Unlike CONTAINER and LINK, FORCE-related schemas concentrate more on the involuntary and uncontrollable nature of the symptom (Brewin, 2015). The traumatic event and attendant feelings are compared to an irresistible external force that caused the speaker to move in a certain direction or act in a specific way. The “吸引 (*xīyīn*, *attraction*)” metaphor in example (6), which occurred right after the “black hole” metaphor, provides a good example of the ATTRACTION schema. The self being troubled by the negative emotions is interpreted as the self being physically “attracted” by an irresistible force.

The enduring nature of the re-experiencing symptom is also represented by the COMPULSION schema, which involves a force vector, an entity affected by the force, and a potential trajectory along which the entity will move (Johnson, 1987). Using this structure, trauma-related stimuli are described as a constant external force acting upon the self. In example (8), an interviewee created a metaphor of “冲刷 (*chōngshuā*)”, conceptualizing herself as being “constantly washed out” by trauma-related information:

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(8) 在你被各种信息流不断冲刷的这个过程中, 你肯定还是情绪会越来越激烈的。

'When you are constantly washed out by the flows of information, your emotions would definitely be more and more intense.'

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In addition, there are also two metaphors describing the symptom as perceived DISABLEMENT of the human body and the SUPERIMPOSITION of the political protests onto the speaker's personal life. Although they are also observed in the description of dissociation, the emphases here (i.e., the uncontrollable and enduring nature of post-traumatic feelings) are obviously different from the focuses of dissociation-related metaphors (i.e., the sense of loss and incongruence).

#### 4.3. Avoidance

Avoidance is a coping strategy adopted by trauma victims to protect themselves from re-experiencing the traumatic feelings. This symptom was only described by five metaphors, among which four instantiated the LACK OF CONTACT schema. In Mandarin Chinese, knowing and learning about something is often metaphorized as the subject having contact with the surrounding environment. In the present context, the speaker avoiding trauma-related people, events, places, and feelings is interpreted as the self having no physical contact with the surroundings. In example (9), the speaker's avoidance of trauma-related stimuli is described as himself taking a strategy of “龟缩 (*guīsuō*, *huddling up like a turtle*)”:

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(9) 我就采取一个龟缩战术, 把我的社交软件除了微信以外都删掉了。

'I took a strategy, huddling up like a turtle, and deleted all my social networking software except for WeChat.'

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Another less common but still therapeutically relevant schema is MASS-COUNT, which describes the process of dispersed individuals being converted to a “single homogeneous mass” (Johnson, 1987, p. 104). The schema is also documented by Lakoff (1987) at a more specific level as MULTIPLEX TO MASS. Example (10) is illustrative:

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(10) 如果我出门去买东西, 还有说是去办事情, 就很有去考虑我在这个社会里边怎么样能更好的融入进去, 或者怎么样去隐藏自己。

'If I go out to buy something or do something, I would think very carefully how to merge myself, or to hide myself into the society.'

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In this example, the speaker, as a non-local student, conceptualizes herself as detached from the local society as a homogeneous mass, and describes the strategic avoidance of potential harm as an act of “*merging* (融入, *róngrù*)” and “*hiding* (隐藏, *yìncáng*)” oneself. While LACK OF CONTACT is merely a passive reaction to trauma-related cues, the MASS-COUNT schema, as a precautionary measure to mitigate potential risks, seems to be a more active and adaptive mode of self-protection.

#### 4.4. Anxiety and hyperarousal

This symptom refers to the subject being excessively sensitive and sometimes overly responsive to trauma-related stimuli. Twenty-two metaphors were directly relevant to this symptom. The COMPULSION schema, instantiated by fifteen metaphors, was the most common in the present dataset. Similar to the COMPULSION schema that described the re-experiencing symptom (see example 8), traumatic feelings are conceptualized as a powerful object that can cause other objects to move or to fall off to the ground, and the self in anxiety and hyperarousal is conceptualized as a passive recipient of an external force. See example (11):

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(11) 尤其是在路上看到戴口罩的人, 我当时心里面会“咯噔”一下。

'Especially when I saw people wearing a mask on the street, my heart would quaver and make a noise of “*gedeng*”.'

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During the social unrest, the act of wearing face masks is regarded as a way to show support to the protesters and therefore an important trauma-related stimuli to people from mainland Chinese. When seeing people wearing a mask, the speaker's heart becomes an object that is suddenly pushed off and making a noise of “咯噔 (*gēdēng*)”. While example (8) highlights the enduring nature of the symptom and involves no movement of the self, example (11) reflects a different type of COMPULSION, outlining a force relation characterized by the abruptness of the force and the induced movement of the object.

There are also some expressions in which the self is both the agent and the recipient of the force:

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(12) 现在要花更多的钱, 却不能达到预期的学习效果, 然后在心理上也会给自己增添很多负担, 就会给自己很多压力。

'Now it costs even more money, but you can't learn what you expected to learn, then you'll put a lot of burdens and a lot of pressure on yourself.'

---

Because of the violence targeted at mainland Chinese, many students had to leave Hong Kong for a safer environment and take online courses. Worrying about extra expenditure caused by cross-border traveling and accommodation and the difficulty in concentrating on online learning, the speaker interprets her anxiety in terms of putting physical forces like “负担(*fùdan*, *burden*)” and “压力(*yālì*), *pressure*” on herself. Different from example (9), the emphasis here is more on the endurance of the force rather than the sudden movement of the object.

Five metaphors described anxiety and hyperarousal as a repetitive phenomenon using the CYCLE schema. Example (13), which occurred right after example (5), exemplified two contrastive types of this schema, i.e., the constant movement of an object between high and low spatial locations and the alteration of two different physiological states:

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(13) (心情)起起伏伏的, 就是一会憋气一会不憋气这个样子。

‘Because my mood is always going up and down, feeling short-breathed at this moment but not short-breathed better at the next.’

---

The speaker first describes her feelings as an animate entity that is constantly moving up and down in space and then elaborates on this feeling using a “憋气(*biēqì*, *short-breathed*)” metaphor. The interchange between hyperarousal and the relaxed state of mind is described as the repetition of the “short-breathed”-“not short-breathed” cycle. Although the two examples had different vehicle terms, both highlight the iterative nature of anxiety and hyperarousal symptoms.

There are also two metaphors that draw on less commonly reported features of the symptom: one interprets the intensification of anxiety as the enlargement of space along the SCALE of size, and another describes the symptom as an OBJECT with perceivable weight.

#### 4.5. Impairment in functioning

The terminology “impairment in functioning” is metaphorical in itself in that the reduction in emotional, cognitive, and social functioning is compared to the mutilation of the human body or a concrete entity. Despite the metaphoricity implied by the name, only two metaphor vehicles provided a direct account of the symptom. The underlying structure is generally consistent with the inferential logic implied by the symptom name, interpreting the inability to maintain normal daily activities as a concrete entity being destructed by an external force. Similar to example (10) identified for the avoidance symptom, the two metaphors about impairment in functioning also reflect the MASS-COUNT schema. However, instead of focusing on the aggregation of parts into a whole, the metaphors about functional impairment foreground the process of a massive complex being broken down to several different clusters, which is just the reverse of MULTIPLEX TO MASS. Example (14) is illustrative:

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(14) 来这里读书的那种心情已经完全被破坏掉了, ..., 就是不知道自己到底学这些有什么意义。

‘The mood I used to have for studying here has been completely destroyed, ..., I have no idea why I’m still learning about all these things.’

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Here the inability to get self-motivated is interpreted as the mood being “*destroyed* (破坏, *pòhuài*)” by an external force. Based on the conceptualization of the self or emotions as a tangible object, trauma was interpreted as an external power that causes the object to lose its original structure.

#### Summary

Findings of this study confirm clinically measured post-traumatic symptoms as an important factor explaining variations in trauma metaphors. Even though the participants had no conscious knowledge about the clinical distinctions of the symptoms, their metaphors still formed distinct patterns that are meaningfully consistent with clinical interpretations of the symptoms. We can see that symptom-specific metaphors manifest clear and meaningful patterns at the image schematic level, and that different symptoms have different configurations of image schemas. In the rare cases where image schemas overlap, the focuses were noticeably different (e.g., the COMPULSION schema instantiated by examples (8) and (11) and MASS-COUNT reflected by examples (10) and (14)). The findings confirm the experiential nature of metaphors and image schemas and the role of embodied experience in conceptualizing implicit emotional and cognitive experiences (Lakoff & Johnson, 1980, 1999).

The results also lend linguistic support to the idea that post-traumatic symptoms are experienced as conceptually or experientially distinct constructs. The image schemas are meaningfully consistent with common psychological understandings about the symptoms, which provides a linguistic justification for the clinical differentiation of relevant symptoms. While trauma diagnosis based on the APA criteria mainly focuses on factual information such as whether a specific physical or psychological reaction occurred, how many symptoms does the patient have, and how long have the symptoms lasted, this study reveals the possibility for symptomatological patterns to be captured in metaphorical language and distinguished at the image schematic level, thereby extending the diagnostic potential of image schematic metaphors from the prediction of general emotional conditions (Qiu & Tay, *in press*) to the identification of more specific clinical symptoms. The schemas and relevant metaphorical expressions could be employed as useful additional information for the assessment of trauma and symptom-focused trauma treatment. The findings could also be incorporated into trauma treatment using metaphor-based protocols in which therapists invite clients to elaborate on their metaphors by asking “what do you feel” and “what does it look like” (e.g., Kopp & Craw, 1998; Sims, 2003).

Another interesting observation is that neither the number of image schemas nor the frequency of metaphors was equally distributed across symptoms. While metaphors about dissociation, re-experiencing, and anxiety and hyperarousal were structured by several different image schemas, avoidance and impairment in functioning were less likely to be represented by metaphors. This may reflect the differentiated experiential nature of the symptoms; nevertheless, it is also possible that specific characteristics of the traumatic experience or demographic features make some aspects of trauma more salient than others. A more rigorous comparison between literal and metaphorical statements and comparisons across different traumatic experiences are needed to obtain a clearer understanding of this question.

## 5. CONCLUSION

This study aims to investigate the underlying image schematic patterns of symptom-specific metaphors. We have shown that trauma victims' experience of specific post-traumatic symptoms could have dynamic interactions with their use of metaphors. At the methodological level, the study reveals the underestimated value of psychometric variables in cognitive semantic analyses of mental health metaphors. It also illustrates how image schematic analysis could be conveniently used in categorizing symptom-specific metaphors and how correspondent analysis juxtaposing psychotherapeutic observations and discourse analytic findings could yield new insights for the study of mental health communication. The findings also contribute to a more comprehensive understanding of trauma, revealing the need for future research to consider the interaction between metaphor use and more specific clinical symptoms.

This study is limited in a number of aspects. First, the participants were recruited using convenience sampling, and the sample size is small given the focus on ASD subjects, which limits the generalizability of the findings. Future research could replicate the methods on a larger population with more diversified demographic backgrounds and validate the findings in a broader trauma population (e.g., non-ASD participants of the same project and victims of other traumatic events such as traffic accidents and earthquakes). It would also be interesting for follow-up research to use statistical methods to explore the quantitative relationship between the subjects' experience of post-traumatic symptoms and their use of symptom-specific metaphors. Second, SASRQ was developed based on DSM-IV rather than the latest DSM-V criteria. Nevertheless, as DSM-V enhances the criteria by providing a more definitive description of the traumatic event and allowing a more flexible combination of symptoms (Substance Abuse and Mental Health Services Administration, 2016), the distinguishing symptoms identified by DSM-IV are preserved; therefore, the efficacy and validity of SASRQ are not reduced. Thirdly, no quantitative reliability checks were conducted for the identification of metaphor vehicle terms and symptom-specific metaphors; the identification of image schemas was based on only one single coding scheme. Future research could adopt more rigorous reliability tests and use two-tier coding (Kimmel, 2010) for the identification of metaphors and image schemas. Lastly, since image schemas could also be instantiated in non-metaphorical language, it would also be interesting to examine symptom-specific image schemas in non-metaphorical language.

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## ETHICS APPROVAL

The study was approved by the Human Subjects Ethics Sub-Committee of the Hong Kong Polytechnic University (HSEARS20191211001).

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