Deanship of Scientific Research

An Analysis of Heart and Head Metaphors in English and Arabic

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Abstract

Objectives: This paper examines how *heart* and *head* metaphors are conceptualized and used in American English and Jordanian Arabic (JA) with a view to highlighting the similarities as well as the differences between the two. The study also examines how the formation of such expressions is influenced by human body experiences.

Methods: This paper uses a qualitative approach based on Lakoff and Johnson (1980) for analyzing a corpus of 140 heart and head metaphorical expressions from both languages, which was built by the researchers.

Results: The findings show that the conceptualization and the manifestation of the metaphorical expressions under investigation differ in terms of the linguistic expressions used and the conceptual metaphors from which they generate. Although English and Arabic are unrelated as they belong to different language families, the findings show that there is still a common ground for conceptualizing the bodily-based human experiences through metaphor.

Conclusions: Due to their importance in facilitating communication, the study recommends examining the metaphorical expressions of other body organs in English and Arabic other than *heart* and *head*.

Keywords: Conceptual metaphors; English-Arabic; head; heart; metaphors

دراسة مقارنة لاستخدام استعارات "القلب" و"الرأس" في اللغتين الإنجليزية والعربية

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ملخّص

الأهداف: تستعرض هذه الدراسة كيفية تجسيد واستخدام استعارات "القلب" و"الرأس" في اللغتين الإنجليزية والعربية، مع تسليط الضوء على أوجه التشابه والاختلاف بين اللغتين، وكما تدرس العلاقة بين التجارب الجسدية البشرية وتكوين هذه التعبيرات اللغوية.

المنهجية: تعتمد الدراسة على نهج نوعي مستند إلى نظرية ليكوف وجونسون (1980)، حيث تم تحليل 140 تعبيراً استعارياً يتعلق بالقلب والرأس في اللغتين، التي تم جمعها من قبل الباحثين.

النتائج: كشفت النتائج عن تباين في كيفية تشكيل وتجسيد هذه التعبيرات الاستعارية بين اللغتين من حيث الصيغ اللغوية والاستعارات المفاهيمية التي تعتمد عليها. وعلى الرغم من الاختلافات الكبيرة بين الإنجليزية والعربية من حيث جذورهما اللغوية، أظهرت الدراسة وجود نقاط التقاء في كيفية تصوير التجارب البشرية المرتبطة بالجسد من خلال الاستعارة.

الخلاصة: نظراً لأهمية هذه الاستعارات في تعزيز التفاهم والتواصل، توصي الدراسة بضرورة التعمق في دراسة استعارات أعضاء الجسد الأخرى في اللغتين الإنجليزية والعربية إلى جانب القلب والرأس.

الكلمات الدالة: الاستعارة التصورية، الإنجليزية والعربية، الرأس القلب، الاستعارة.

1. Introduction

The linguistic concept of metaphor has attracted considerable scholarly attention from many different (inter-) disciplinary perspectives such as rhetoric (Kelle, 2005), literature (Kurniawati et al., 2015), and philosophy (Wall, 2013), etc. Within modern linguistics, it has been studied from different domains including but not limited to sociolinguistic and cultural (e.g., Kövecses, 2005), semantic (Zibin et al., 2022), psycholinguistic (e.g., Gong, 2020, Hamdan et al., 2023) and even cognitive standpoints (Lakoff and Johnson 1980 and Gibbs and Raymond 2006). In their influential and thought-provoking book 'Metaphors We Live by', Lakoff and Johnson (1980) introduce Conceptual Metaphor Theory (henceforth CMT), a prolific framework that influences how we perceive and understand the world we live in for years and years to come. In this framework, which subsumes under cognitive linguistics, "the linguistic behavior of speakers of a certain language is constrained by the way they experience and perceive the world around them and the way they conceptualize and construe such experiences in their minds" (Handl and Schmid, 2011:1). Further, CMT postulates that metaphors are not just ornamental stylistic devices that are employed by language users in their speeches and writings to achieve an artistic effect but are also conceptual tools that humans use to structure, re-structure and create realities. They reside not only in language, but also in thought and action since our "ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature" (Lakoff and Johnson, 2003:4).

CMT distinguishes between two important concepts: conceptual metaphors and metaphorical or linguistic expressions. For example, the conceptual metaphor, which is conventionally always capitalized to distinguish it from everyday language, HAPPY IS UP is realized by a number of metaphorical expressions in everyday language such as 'I am feeling up today' (Deignan, 2005:14). Lakoff and Johnson (1980:115-119) define metaphor as a mapping process from one conceptual domain (the source domain) to another conceptual domain (the target domain). An illustrative example that shows how metaphorical mappings work is the concept 'LIFE' and the conceptual metaphor 'LIFE IS A JOURNEY'. Here, the more complex target domain 'LIFE' is viewed in terms of the simpler concept 'JOURNEY' to facilitate understanding through establishing a set of systematic correspondences between the two, i.e., metaphorical mappings. The metaphorical mappings between the two can be outlined as follows:

Source domain: journey   Target domain: life
beginning →   birth
end   →   death
destination →   goal
crossroads →   making choices
bumpy roads or paths →   obstacles

When speakers use and interpret conceptual metaphors through their linguistic manifestations, they do not need to be overtly aware of these mappings, but their subconscious presence is imperative. Thus, one cannot decipher a sentence like 'I see myself at crossroads in my life' without being subconsciously aware of the set of correspondences that exist between 'crossroads' and 'making decisions'. These mappings make the sentence imply that the speaker is at a point where he/she necessarily needs to choose a course of action that will affect his/her future in significant ways. Lakoff (1993:206-207) posits that some aspects of the target domain correspond to aspects of the source domain through mapping. Lakoff and Johnson (1980:109) point to the fact that both domains are not identical; instead, the target domain is partially understood in terms of the source domain. If they are really identical, the metaphorical sense will not exist in the first place.

A distinctive feature of metaphor is that it echoes some sociocultural aspects of speech and the way(s) that certain groups of people think. In other words, the metaphorical language that humans use mirrors their experiences in the world (Gibbs, 2014:167). In this respect, Lakoff and Johnson (1980:14) state that our bodily experiences are sometimes vital when we create and conceptualize metaphors. Lakoff and Johnson (1980: 22) argue that different aspects of one culture are channelled to others via language and that "the most fundamental values in a culture will be coherent with the metaphorical structure of the most fundamental concepts in the culture."

Lakoff (1992) and Gibbs et al. (2004)   assume that metaphor is fundamentally grounded in our ordinary body

experiences and that our body experiences enable us unconsciously to innovate metaphorical expressions and conceptualize them by relating these metaphors to our body experiences. For instance, the "correlation in our childhood experiences between the loving embrace of our parents and the comfortably bodily warmth that accompanies it" (Kövecses, 2005:3) lead us to conceptualize AFFECTION as WARMTH in 'AFFECTION IS WARMTH'.

Metaphors encapsulate our thoughts, language, and actions. Lakoff and Johnson (1980) observed that metaphors are used pervasively in our everyday language, and in every realm and area. In order for a learner of a language to communicate effectively with native speakers, they need to master not only the formal and grammatical rules of the language but also the norms and conventions of its use. This includes understanding socio-cultural conventions and culturally loaded words.

One problem that learners of another language often face is the transfer of norms from their native language, leading to potential communication issues. When the norms and socio-cultural conventions of both the native language (L1) and the second language (L2) align, communication proceeds smoothly. However, differences can result in serious communication breakdowns. To foster communication and minimize these breakdowns, several studies have examined speech act realizations and their universality or language-specific nature (Rabab'ah and Al-Hawamdeh, 2020; Hamdan and Mahadin, 2021; Hamdan and Sayyed, 2022). Other studies have focused on the communicative and pragmatic functions of discourse markers and idiomatic expressions (Jarrah et al., 2019; Hamdan and Abu Rumman, 2020; Hamdan, 2021; Hamdan and Hammouri, 2022, among others).

Despite this research, there remains a need for further investigation into metaphors, especially those related to body parts. *Heart and head* metaphors are particularly significant because they are commonly used to express fundamental human experiences and emotions across cultures. Consequently, the study reported here aims to fill this gap by examining heart and head metaphors in English and Jordanian Arabic (JA).

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2. Literature review

In one of the earliest studies that have attempted to study how the domain of body parts is central in metaphorizing bodily experience (see Goossens, 1990; Sweetser, 1990), Deignan and Potter (2004) compare a set of related linguistic metaphors about *nose*, *mouth*, *eye*, and *heart* in English and Italian taking into account CMT. The researchers report "a range of equivalent and non-equivalent meanings across the two languages (ibid:1236). Some of the non-literal senses that they have found have the same meaning in the two languages under investigation and are used with the same connotations in similar ways, while other non-literal senses that are roughly similar have slightly different lexicalizations (ibid:1236). For instance, '*heart*', when used to stand for courage, is widely used in English, but was not found in the Italian corpus. Expressions where mouth stands for eating and by extension standing metaphorically for feelings and behavior were more common in Italian than in English. The researchers further report that when it comes to nose, mouth, eye, and heart "non-literal language is extremely common, accounting for a substantial proportion of the corpus citations of a word" (1236). Thus, in their study, 65% of citations of *head*(s) and *heart*(s), about 50% of *hand*(s) and *eye*(s), around 25% citations of *nose*(s) and about 17% of citations of *mouth* are non-literal. In addition, the findings show that a good number of metaphors and metonyms "appear in expressions that have some degree of fixedness [such as using the heart to refer to the seat of emotions, collocating with several recurring words like 'break', 'open' and 'win']" (ibid:1236). An interesting finding that the researchers report is that "for some non-literal senses found in both languages, the grounds of the metaphor do seem to be purely based on bodily experience, but also have roots in folk beliefs or conventional behavior [such as to have heart and heart of gold which both refer to being generous] (ibid:1247).

In another study, Perez (2008) examines the conceptualizations of *heart* in five languages; namely, French, Italian, Spanish, English and German. The findings of the study show that the conceptualizations of the heart are very similar in the languages under investigation. The similarities stem from "the universal aspects of the human body, which supports the idea of embodiment claimed by the cognitive theory" (49). The researcher posits a number of conceptualizations of heart (ibid: 49-50). First, the heart is conceptualized as a container of emotions such as love, worry or interest, sincerity, sadness, pity or sympathy, affection, kindness, desire in addition to courage. The heart is also conceptualized as a material or an

object of value, as a living organism, as a container for intelligence, as a core or central part and as a metonymy for the person. When it comes to differences, Perez (2008: 50) posits that:

They can be established, on the one hand, on the basis of the different target domains to which the source domain 'heart' can be applied [or they can also be established] taking into account the different linguistic elaborations, i.e., there is the possibility that the conceptual metaphor is the same, but it is elaborated in a different way in the codes studied.

As an example of the first criterion of differences, the researcher reports the conceptual metaphor THE HEART IS THE STOMACH, which is exclusive to French. As for the second criterion, the researcher reports how, sometimes, there is no metaphorical projection because the projection is given with a different body part and cites as an example *To have one's heart in one's mouth* in English as opposed to German "Das Herz bis zum Hals hinaufschlagen", which projects it in the neck not the mouth.

Various research studies explore the extent to which metaphors transcend cultural and linguistic boundaries. In one such study, Barcelona and Soriano (2004) conduct two investigations focusing on how color and anger metaphors are conceptualized in Spanish and English. The findings from these two case studies indicate a subtle contrast in both conceptual and lexical aspects, revealing that the two languages employ different metaphorical approaches to represent a specific domain of experience. Consequently, it is uncommon for a conceptual metaphor to possess identical conceptual structures and linguistic manifestations across languages.

Al-Saleh (2019) studies the use and the conceptualization of *Head* and *Heart* metaphors in English, Spanish, and Arabic. The study investigates 57 *heart* and *head* English metaphorical expressions and their equivalents in the other two languages. The results show that both body-based experiences and cultural orientations play an important role in forming and conceptualizing the *heart* and *head* metaphors.

In a similar vein, Al-Saleh, et al., (2020) state that most of the metaphorical expressions of *heart* and *head* investigated in their study are manifested and conceptualized almost similarly in both English and Spanish. Further, the researchers report that despite the attested differences, there remains a shared manner of conceptualizing bodily-centered human experiences through metaphor.

The key difference between our study and previous research lies in the specific languages analyzed and the depth of cultural analysis. Al-Saleh (2019) and Al-Saleh et al. (2020) primarily focused on cross-linguistic comparisons involving English, Spanish, and Arabic without delving into the specific cultural nuances of American English and Jordanian Arabic. Our study fills this gap by providing a focused comparison between American English and Jordanian Arabic, offering insights into how these particular languages conceptualize heart and head metaphors. Additionally, we expand the analysis to explore how cultural contexts influence these metaphorical expressions, providing a more nuanced understanding of the interplay between language, culture, and metaphor. Further, the present study adopts CMT as a framework. The theory highlights the significance of the interplay between metaphor and cognition, as well as the connection between metaphor and our bodily experiences. This framework is employed to explore how heart and head metaphors are conceptualized in English and JA. The researchers also used CMT to compare and contrast the ways of conceptualizing these metaphors in the two languages. For the readers' convenience, below is an overview of CMT.

3. An overview of CMT

Conceptual Metaphor Theory (CMT), as introduced by Lakoff and Johnson (1980), revolutionized our understanding of metaphor by framing it as a core mechanism of thought, rather than a mere linguistic ornament. According to CMT, human cognition is largely metaphorical in nature, with our conceptual system structured by metaphorical mappings between domains. In this framework, a conceptual metaphor involves mapping a source domain, typically more concrete and familiar, onto a target domain, which is more abstract and complex. These mappings help us understand and navigate our experiences by leveraging more easily comprehensible concepts.

One of the central tenets of CMT is that these conceptual metaphors are rooted in embodied experiences. This embodiment principle asserts that our sensory and motor experiences provide the foundation for how we conceptualize

abstract notions. While this idea of embodiment gives rise to universal metaphorical structures, significant cross-cultural variation occurs in how these metaphors are linguistically realized. This variation arises due to differences in cultural practices, values, and belief systems, which influence the way metaphorical concepts are expressed across languages.

Moreover, CMT underscores that metaphorical systems are not isolated from the broader sociocultural context. Cultural models, folk theories, and shared values all shape the ways in which metaphors are conceptualized and articulated in different languages. For example, while both English and Jordanian Arabic may conceptualize similar experiences using metaphors involving the *heart* and *head*, cultural factors influence the specific expressions and connotations these metaphors carry in each language.

In applying CMT to analyze *heart* and *head* metaphors in English and Jordanian Arabic (JA), this study highlights how cultural nuances interact with embodied cognition to produce metaphorical expressions that are at once similar and distinct. By examining the metaphorical systems in these two languages, the study seeks to uncover the shared conceptual structures grounded in universal bodily experiences, while also addressing the culturally specific ways in which these concepts are expressed and understood.

4. Research questions

The present study seeks to answer the following questions:

(i) What metaphorical expressions associated with *heart* and *head* are used in American English and Jordanian Arabic?

(ii) What are the conceptual metaphors that serve as the basis for these metaphorical expressions?

(iii) Which heart and head conceptual metaphors are most commonly observed in American English and Jordanian Arabic?

5. Significance of the study

The findings of the present study are expected to test Kövecses's (2005) hypothesis about the universality of embodied metaphors and the impact of cultural aspects on their conceptualization and manifestation. By comparing *heart* and *head* metaphors in American English and Jordanian Arabic, this study aims to provide empirical evidence on how universally shared human experiences are expressed through language and how cultural contexts influence these expressions.

Furthermore, this study is intended to aid speakers of both languages in understanding how metaphorical expressions are realized and conceptualized by speakers of the other language. This understanding is valuable for individuals who communicate frequently in both languages, as it can enhance cross-cultural communication and reduce potential misunderstandings.

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6. Methodology

This part presents the corpus of the study[1] and introduces the methods of data collection. It also discusses the methodological framework upon which this study is based.

6.1 Corpus, data collection and analysis

The data of this research comprises 140 *heart* and *head* metaphorical expressions in English and JA. 56 are given by seven American English native speakers: 32 are *heart-related* metaphors and 24 are *head* metaphors. They are elicited through informal personal interviews. Each informant is requested to recall and report the most common metaphorical expressions that are related to *heart* and *head* in their everyday language. Then, the equivalents of these metaphorical expressions in JA and many others that contain the words '*heart'* and '*head'* are compiled through oral interviews with 10 Jordanian Arabic-speaking students enrolled at the University of Jordan who also have a working knowledge in MSA. For example, the participants might be asked what is the equivalent of pig-headed in Arabic? All possible equivalents in JA are compiled to investigate the different ways of conceptualizing and expressing body experiences related to these two body parts in these two unrelated languages. The total number of the collected Arabic *head* and *heart* metaphorical expressions is 75.

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[1] This study is a continuation of a published paper on the same metaphors in English and Spanish (cf. Al-Saleh, Al-Shuaibi, Sharab and Al Momani (2020)

To analyse the data, the researchers adopted a qualitative approach based on Lakoff and Johnson (1980). The analysis of the English and Arabic data was used to discover the most productive *heart* and *head* conceptual metaphors and metaphorical expressions in the two languages. Further, the study was meant to examine whether these metaphorical expressions are derived from the same conceptual metaphors or not. Actually, the targeted metaphorical expressions of *heart* and *head* from the two languages were classified and analyzed according to the kind of mappings employed in conceptualizing the two metaphors. This classification was used at a later stage to compare and contrast the metaphorical expressions at hand with a view to identifying the similarities and differences between English and JA from lexicological and cognitive perspectives. Then the collected data were grouped into general source domain (CONTAINER, PERSON, UP, etc.). The reliability of the analysis of the metaphors was ensured by co-analysis of their content. Initially, the researchers independently classified the metaphors based on their content and then they discussed their analysis to establish consensus in their categorization.

7. Results and discussion

7.1. Results

When it comes to *heart* and *head* metaphors, the findings of the study show that they can be divided into the following six categories. These categories were inspired by Charteris-Black's (2002) model, which analyzed figurative expressions in English and Malay to identify similarities and differences. Charteris-Black's model, in turn, was based on an earlier model by Deignan et al. (1997), and it categorizes figurative units depending on the correspondence between linguistic expressions and conceptual bases in the two languages, as well as whether these expressions exhibit culture-specific (opaque) or universal (transparent) characteristics. Although originally applied to English and Malay, this model is also relevant for comparing English and Arabic.

The classification is as follows:

1. Same *heart* conceptual metaphors in English and JA with similar linguistic expressions.

2. Same *heart* conceptual metaphors in English and JA with different linguistic expressions.

3. Different *heart* conceptual metaphors in English and JA with different linguistic expressions.

4. Same *head* conceptual metaphors in English and JA with similar linguistic expressions.

5. Same *head* conceptual metaphors in English and JA with different linguistic expressions.

6. Different *head* conceptual metaphors in English and JA with different linguistic expressions.

By adopting Charteris-Black's (2002) model, we can systematically explore the extent to which heart and head metaphors are universally shared and where cultural variations influence their expression. This approach provides a detailed analysis of similarities and differences in metaphorical language use in English and Jordanian Arabic, highlighting both universal and culture-specific aspects.

Below are more details:

7.1.1 Same *heart* conceptual metaphors in English and JA with similar linguistic expressions

Although the two languages under examination here, i.e., English and JA, are not related, the findings of the study show that there are 20 *heart* metaphorical expressions that fit under this category, but due to space limitations, just three illustrative examples are highlighted below in Table 1.

Table (1) Same *heart* conceptual metaphors in English and JA with similar linguistic expressions*

Conceptual Metaphor In English	Conceptual Metaphor in JA	Linguistic expression in English	Linguistic expression in JA
HEART IS A PERSON	HEART IS A PERSON	(1) He follows his *heart*.	jitbaʕ galbu (follows his *heart*)
HEART IS A CONTAINER	HEART IS A CONTAINER	(2) From the depths/bottom of my *heart*.	min ʔaʕma:q qalbi: (from depths my *heart*)
HEART IS AN OBJECT	HEART IS AN OBJECT	(3) He has a big *heart*.	galbu kbi:r (his *heart* big)
Heart IS A FRAGILE OBJECT	HEART IS A FRAGILE OBJECT	(4) He is broken*hearted.*	galbu maksu:r (his *heart* broken)

6.1.2 Same *heart* conceptual metaphors in English and JA with different linguistic expressions

A careful examination of the data shows that there are eight metaphorical expressions that have the same *heart* conceptual metaphor in both languages, but with different linguistic expressions. Below are illustrative examples.

Table 2 Same *heart* conceptual metaphors in English and JA but with different linguistic expressions

Conceptual Metaphor in English	Conceptual Metaphor in JA	Linguistic expression in English	Linguistic expression in JA
HEART IS A PERSON	HEART IS A PERSON	(5) My heart tells me.	galbi dali:li: (My *heart* is my guide) galbi ħa:sisni: (My *heart* feels me) 'My heart tells me)
HEART IS AN OBJECT	HEART IS AN OBJECT	(6) He has a *heart* of gold.	galbu ʔabjad (his *heart* white) 'He has a white *heart*.'
HEART IS A SOLID OBJECT	HEART IS A SOLID OBJECT	(7) She has *heart* of stone.	galbhaga:si: (her *heart* hard) 'She is hard-*hearted*.'

7.1.3 Different *heart* conceptual metaphors in English and JA with different linguistic expressions

Despite the similarities reported above, the researchers were able to identify eight English *heart* metaphorical expressions that had either different JA *heart* conceptual metaphors with different linguistic expressions or had no equivalent JA *heart* conceptual metaphors. A sample of these is presented below in Table 3.

Table (3) Different *heart* conceptual metaphors in English and JA with different linguistic expressions

Conceptual Metaphor in English	Conceptual Metaphor in JA	Linguistic expression in English	Linguistic expression in JA
HEART IS AN OBJECT	HEART IS A CONTAINER	(8) She is lighthearted.	galbha: χa:li: min lhumu:m (Her *heart* free from worries) 'Her *heart* has no worries.'
HEART IS AN ITEM OF CLOTHING	HEART IS A BOOK	(9) To wear my *heart* on my sleeves	qalbu kta:b maftu:ħ (His *heart* open book) 'His *heart* is an open book.'

The cross-linguistic examination of conceptual metaphors offers intriguing insights into the universal aspects of human cognition while highlighting the nuances of linguistic expression across different cultures. In the realm of *heart* metaphors, despite the vast linguistic and cultural differences between Arabic and English, striking similarities emerge alongside subtle divergences.

One remarkable finding is the convergence in certain conceptual metaphors between Arabic and English, despite their linguistic and historical disconnect. The metaphor HEART IS A PERSON resonates in both languages, expressed similarly as 'follows his heart' in English and jitbaʕ galbu (follows his *heart*) in Arabic. This shared conceptualization suggests a common understanding of how speakers of both languages perceive the heart's role in decision-making, emphasizing its agency and autonomy.

However, linguistic expressions diverge in some instances despite the shared conceptual metaphor. For instance, while both languages embody the concept of HEART IS A PERSON, they employ distinct linguistic constructions, such as 'my *heart* tells me' in English and galbi dali:li: (My *heart* is my guide) in Arabic. These discrepancies underscore the intricate interplay between conceptual metaphors and linguistic representations within each language, influenced by cultural nuances and linguistic structures.

Moreover, differences in conceptual metaphors and their linguistic expressions also emerge between Arabic and English. For instance, while English employs the metaphor HEART IS AN OBJECT to convey being free from worries, as seen in the term 'lighthearted,' Arabic adopts the metaphor HEART IS A CONTAINER, expressed as galbu χa:li: min lhumu:m (his heart free from worries). These distinctions highlight the distinct cultural lenses through which speakers of each language conceptualize abstract concepts like emotional states, shaping the linguistic expressions employed to convey them. In sum, the exploration of *heart* metaphors across Arabic and English unveils both shared cognitive frameworks and divergent linguistic manifestations. This underscores the richness and complexity of language and cognition, inviting further inquiry into the interplay between conceptual metaphors, linguistic expression, and cultural context.

Now, that we are done exploring the *heart* conceptual metaphors and their linguistic expressions in English and JA, let us turn to the *head* conceptual metaphors and their linguistic expressions in both languages and provide illustrative examples for each category.

7.1.4 Same *head* conceptual metaphors in English and JA with similar linguistic expressions

After a close examination of the data collected, the researchers were able to identify 10 identical metaphorical expressions. A sample of these expressions is provided in Table 4 below.

Table (4) Same *head* conceptual metaphors in English and JA with equivalent or similar linguistic expressions*

Conceptual Metaphor in English	Conceptual Metaphor in JA	Linguistic expression in English	Linguistic expression in JA
HEAD IS AN OBJECT	HEAD IS AN OBJECT	(10)Bang your *head* against a brick wall.	ʔuḏrub raːsak bilħeːṭ (hit your head against the wall)
HEAD IS A CONTAINER	HEAD IS A CONTAINER	(11)I can't get her out of my *head*	miʃ gaːdir ʔaʃiːlhaː min raːsiː (not able to remove it from my head)
HEAD IS DOWN	HEAD IS DOWN	(12)Bury one's *head* in the sand	daːfin raːsu birramil (buried his head in sand)

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7.1.5 Same *head* conceptual metaphors in English and JA with different linguistic expressions

The findings of the study reveal that there are seven metaphorical expressions that fit under this category. Below in Table 5 are some illustrative examples.

Table (5) Same *head* conceptual metaphors with different linguistic expressions

Conceptual Metaphor in English	Conceptual Metaphor in JA	Linguistic expression in English	Linguistic expression in JA
HEAD IS AN OBJECT	HEAD IS AN OBJECT	(13)Put his *head* on the block	χaːṭar biraːsu (risked his head) 'He risked his *head*.'
HEAD IS A MOVING OBJECT	HEAD IS A MOVING OBJECT	(14)From *head* to toe	min raːsu la ridʒleː (From his *head* to his legs) 'All over his body'
HEAD IS UP	HEAD IS UP	(15)I can't make *head* or tails out of something.	miʃ ʔimmajjiz raːsiː min ridʒlaj (Cannot tell my head from my legs) (I can't distinguish between my *head* and legs)

7.1.6 Different *head* conceptual metaphors in English and JA with different linguistic expressions

The researchers were able to identify nine English *head* metaphorical expressions which had either different JA *head* conceptual metaphors with different linguistic expressions or had no equivalent JA *head* conceptual metaphors. A sample of these is presented below in Table 6.

Table (6) Different *head* conceptual metaphors in English and JA with different linguistic expressions

Conceptual Metaphor in English	Conceptual Metaphor in JA	Linguistic expression in English	Linguistic expression in JA
HEAD IS AN OBJECT	No HEAD metaphor	(16) He can do it standing on his *head.*	baʕmalha: biʔuˌsˌbaʕ waħad (do it with one finger) I can do it with one finger. 'It is a piece of cake.' baʕmalha: wa ʔana: wa:gif ʕala: ridʒil waħadi I can do it while standing on one leg. 'It is a piece of cake.'
HEAD IS A CONTAINER	No HEAD metaphor	(17) Out of sight, out of *mind.*	ʔil baʕi:d ʕan ʔilʕe:n baʕi:d ʕan ʕilqalb (far from eye far from heart) What is away from the eye is away from the heart. 'Out of sight, out of mind.'
HEAD IS TEMPERATURE	BLOOD IS TEMPERATURE	(18) He is hot-*headed.*	dammu ħa:mi (his blood warm) 'He is hot-blooded.'

Based on the data collected, the following results can be concluded:

(i)   Although the two languages under examination here, i.e., English and JA, are not related, the number of English *heart* and *head* metaphorical expressions of those listed above that are identical or are almost manifested in the same way in JA is more than the number of expressions that are manifested differently. Thus, while 28 *heart* metaphorical expressions (from heart-related metaphors in categories 1+2) and 17 *head* metaphorical expressions (from head-related metaphors in categories 4+5) are identical or almost manifested in the same way in JA, only 8 *heart* metaphorical expressions and 9 *head* metaphorical expressions are manifested differently with different conceptual metaphors.

(ii)   What is usually known as lexical gaps and mismatches as described in Ali (2003) is eye-catching in the analysed metaphorical expressions in both English and JA. The manifestations of the English metaphorical expressions differ in JA in terms of the linguistic expressions that are used to convey similar meanings. Despite these differences, the metaphorical expressions in the two languages are derived from one conceptual metaphor. The findings presented in Tables 2 and 5 demonstrate that, in these instances, the varied manifestations of English metaphorical expressions in JA stem from a single conceptual metaphor, i.e., HEART IS A PERSON, HEART IS AN OBJECT, HEART IS A SOLID OBJECT, HEAD IS AN OBJECT, HEAD IS A MOVING OBJECT, HEAD IS UP. For example, while the conceptual metaphor HEAD IS AN OBJECT exists in both English and Arabic, the linguistic expressions used to represent it are different. In English, the expression *put his head on the block* conveys the idea of taking a significant risk. In Jordanian Arabic, a comparable expression is χa:tar bira:su which translates to "risked his head" and carries the same underlying conceptualization but uses a different linguistic form. Similarly, the conceptual metaphor HEAD IS A MOVING OBJECT is shared across both languages, yet the linguistic realizations differ. In English, an example is *from head to toe,* which highlights the head as the

starting point of a movement across the body. In Jordanian Arabic, the equivalent expression is min raːsu la ridʒleː, which translates to "from his head to his legs." Although the structure and imagery of these expressions vary, they are grounded in the same conceptual metaphor of movement from one body part to another. These examples highlight that, while the underlying conceptual metaphors are consistent across English and Arabic, cultural and linguistic differences result in distinct metaphorical expressions within each language.

(iii)   Instances of collocation mismatches described by Ali (2003) are not found in the expressions collected for the present study except for *white heart* in JA to mean gold-hearted in English.

(iv)   There are English metaphorical expressions which are not manifested in JA through metaphorical expressions that have *heart* or *head* words as one of their constituents (see examples 9, 16 and 17).

As for the third and last research question, based on the data, the conceptual metaphors in the two languages under investigation that are productive the most are HEART/HEAD IS AN OBJECT and HEART/HEAD IS A CONTAINER , whilst the least productive one in the two languages is HEART/HEAD IS FOOD.

Based on the results above, the researchers posit that many of the metaphorical expressions in both languages are manifested and conceptualized in strikingly similar manners. When it comes to these similarities, they may be attributed to the universal embodied cognition theory since all human beings regardless of their origins, racial or ethnical peculiarities, share the same physical body structure and, thus, it follows that they may share as well many of the common bodily experiences and functions. According to Yu (2020: 250), "sharing this common cognitive foundation of embodiment, different languages should have parallel conceptual metaphors across their boundaries." This conclusion goes in line with Lakoff and Johnson's (1980) assertion that the presence of universal conceptual metaphors can be attributed to our bodily experiences and the universal aspects of human physiology. The results also yield support to Kövecses' (2005) claims that metaphors are based on our embodied experiences. As for the differences in the conceptualizations of some of the *heart* and *head* metaphors in the data, on the other hand, they maybe be explained in terms of the cultural filtering process of the general universal conceptualisations to reflect human experiences which are more salient to a particular socio-cultural group (Ansah, 2014:44). This conclusion is in line with the findings of Barcelona and Soriano (2004) which indicate that the near-universal conceptual metaphors linked to our bodily experiences are expressed in diverse manners.

7.2. Discussion

When it comes to the third research question and as shown in the findings above, the most productive conceptual metaphors of the metaphorical expressions under investigation are HEAD/ HEART IS AN OBJECT, HEAD/ HEART IS ACONTAINER, whereas the least productive one is HEAD/ HEART IS FOOD.

7.2.1. The Conceptual Metaphor *HEART/ HEAD* IS AN OBJECT

When we describe a kind person as someone with a *heart* of gold, here we refer to the *heart* as a precious invaluable METAL OBJECT. Consequently, we value and care about those who are likened to gold the way we value this precious substance.

In *clear-headed* metaphorical expression, mapping *head* to CLEAR helps to understand and to imagine easily the mental state of the described person. Thus, viewing this mental state as being free from mental confusion allows us to understand the experience of this person.

By examining the data collected carefully, we can see that the sub-conceptual metaphor refers to certain objects such as: HEART IS A METAL OBJECT/ HEART IS A FRAGILE OBJECT/ HEART IS A SOLID OBJECT. Each sub-conceptual metaphor carries implications that aid in comprehending the metaphorical meaning within the target domain. For instance, considering the metaphorical expression "*to have a heart of gold*," we find that associating GOLD with the *heart* symbolizes virtuous qualities such as goodness and kindness. These virtues are conceptually represented as wealth in both languages. However, when other materials like STONE are linked to the *heart*, they evoke contrasting and negative connotations. Put differently, one who possesses a *heart of stone, i.e.,* galbu ħadʒar in JA*, is* unkind and cruel, showing no sympathy towards others.

Another important feature to highlight in this study is the size of the objects (see Ruiz de Mondoza 1999:19).

According to Ruiz de Mondoza's (1999) cognitive model, objects of considerable size typically carry positive connotations. Consequently, having a big *heart* signifies that the *heart's* large size is associated with positive attributes, such as kindness. Conversely, the small size or even the absence of a specific object is linked to negative connotations, as exemplified by the expression "to have no *heart*." Further, based on the model, smallness is conceptualized as having negative connotations whereas largeness is conceptualized as having positive connotations (e.g., galbuh kabi:r 'his *heart* is big')..

Further, the motion of the *heart/head* has different metaphorical connotations (Lakoff and Johnson 1980). For example, whenever the conceptual metaphor is HEART/HEAD IS UP the connotations of this metaphorical expressions seem to be positive, while when the conceptual metaphor is HEAD IS DOWN, the connotations are negative. To illustrate, let us take the metaphorical expression to *get your head above water* which is derived from the conceptual metaphor HEAD IS UP. According to Lakoff and Johnson (1980:15), this conceptual metaphor is derived from the fact that HAVING CONTROL OR FORCE IS UP which is based on the notion that the victor in a fight is typically on top. On the other hand, the metaphorical expression to *bury one's head in the sand is* derived from the conceptual metaphor HEAD IS DOWN. Being subject to control or force is typically considered as being DOWN. The previous discussion can also be applied to *heart* metaphorical expressions such as my *heart jumps because of happiness.* This metaphorical expression is derived from the conceptual metaphor HEART IS A MOVING OBJECT, but the movement of the heart is upwards. Lakoff and Johnson (1980) present this emotional state under the conceptual metaphor HAPPY IS UP. So, conceptualizing this metaphorical expression from this perspective allows us to better understand it.

7.2.2. The Conceptual Metaphor *HEART/HEAD* IS A CONTAINER

"Each of us is a container with a bounding surface and an in-out orientation" Lakoff and Johnson (1980:29). According to Lakoff and Johnson (1980), human beings project in-out orientation onto other objects that are bounded by a surface. From this cognitive perspective, *heart/head* as parts of our bodies that are bounded by a surface can be treated as containers. The following two paragraphs discuss some of the metaphorical expressions under investigation where *heart/head* is considered as a container.

7.2.3 *HEART* IS A CONTAINER

Emotions are a basic feature of human beings and, thus, are considered essential to human lives. In most cultures, the *heart* is seen as the container of positive and negative feelings. The metaphorical expressions *from the bottom of my heart* min ʔaʕma:q qalbi: and *Light-hearted* present the *heart* as a container of positive emotions such as sincerity, joy and comfort, while *I couldn't find it in my heart* and *with a heavy heart* present the *heart* as a container of negative emotions such as sadness and worry. In the words of Hamdan (2022:160):

One way to explain the popularity of the heart [as a marker and a container of emotions such] as love and affection is through anecdotal evidence about the heart being considered the hub of love in songs, proverbs, poetry and interpersonal communication to the extent that a person may show admiration for someone by calling him/her galbi 'my heart'. Actually, this function has a long history; lovers before the Internet era used to draw the red heart in their love letters.

7.2.4 *HEAD* IS A CONTAINER

Thoughts and rationality are widely regarded as distinct attributes of human beings, with the *head* or mind being perceived as the receptacle for these cognitive faculties. This notion of the *head* serving as a container for positive and negative thoughts is evident in several metaphorical expressions under scrutiny. For instance, expressions like "*I can't get her out of my head*" miʃ ga:dir ʔaʃi:lha: min ra:si: and "I planted the idea in her mind" portray the *head* as a container for positive mental states such as love and clarity. However, other metaphorical expressions like "*out of sight, out of mind*" ʔil baʕi:d ʕan ʔilʕe:n baʕi:d ʕan ʕilqalb and "*have rocks in one's mind*" depict the *head* as a container for negative mental states such as lack of focus and irrationality.

7.2.5. The Conceptual Metaphor *HEART/HEAD* IS FOOD

The findings of the present study show that HEART/HEAD IS FOOD is the least productive Conceptual Metaphor in English and JA *heart/head* conceptual metaphors. According to Lakoff and Johnson (1980) conceptualizing ideas with its

subdivisions as food including digesting, eating and cooking gives us a way of understanding a psychological process that we have no direct and well-defined way of conceptualizing." A case in point is to bite someone's head off in English or ʔakal ras fula:n in Arabic. In our study, *head* is viewed as a container of ideas and thoughts which makes it easier to understand the reason behind conceptualizing *head* as FOOD.

It is worth noting that in numerous languages, including the two languages being examined, individuals commonly describe emotions using taste-related terms (Lee, 2016). For instance, love is often associated with sweetness, while sadness is likened to bitterness. This suggests the conceptual metaphor EMOTIONS ARE FOOD, where the *heart*, as a vessel for emotions, can also be conceptualized as FOOD. Consequently, the conceptual metaphor *HEART* IS FOOD emerges, offering a well-defined approach to conceptualize the concept of the *heart* and the associated experiences. In summary, while the HEAD/HEART IS FOOD metaphor may be less productive compared to other conceptual metaphors, it nonetheless provides valuable insights into how abstract psychological and emotional processes are understood through more tangible, sensory experiences. This underscores the importance of metaphor in shaping our comprehension of complex internal states across different languages and cultures.

8. Conclusion

The findings of the study reveal that there is a degree of parallelism in the two languages under examination in the sense that there is a coincidence in the metaphorical language used in the two languages (English and JA). This goes in line with claim by Lakoff and Johnson (1980) that the metaphors that are grounded in human experiences are universal because humans share these embodied experiences.

Notwithstanding, the findings of the study at hand reveal that there are major differences at the conceptual and linguistic levels across the two languages under investigation in terms of the investigated figurative language. The differences occur because of the idiosyncrasies of each culture and its language, which constitute the basis of the figurative language as used by its native speakers. For instance, while when in Arabic, we want to refer to something that brings happiness, we often say juθlidʒissadir 'makes the chest cool', while in English they say warms the heart. In Arabic-speaking regions, particularly in the Middle East and North Africa, the climate is typically hot. Coolness, therefore, is associated with relief, comfort, and pleasure. The phrase juθlidʒissadir evokes a sense of refreshing coolness that contrasts with the often oppressive heat. In many English-speaking cultures, which often have colder climates, warmth is associated with comfort, safety, and positive emotions. A warm heart symbolizes kindness, affection, and emotional warmth, which are desirable states in a cooler environment. In other words, if the phenomenon of metaphor is based only on our body experiences and mind and we as human beings are the same in this respect, it would be a must that the metaphorical expressions that we all use, as human beings, should be universal. However, the differences illustrated in the present study reflect that the cultural aspect is a key factor in the way of manifesting and conceptualizing the metaphorical expressions in each country and its language. The similarities between the two languages support the universality of cognitive embodiment theory, where these similarities occur because of universal physiological and /or behavioural reactions or states of the human beings that cause a similar conceptualization of body-based metaphors. However, the differences appear as a result of different cultural beliefs of various sociocultural groups (Zibin and Hamdan 2019). Therefore, when we study the phenomenon of metaphor, we should hold in mind the universal aspects which include the mind and the body experiences on one hand, and culture on the other hand since they both are indissoluble parts of a whole.

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