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The Conceptualization of Common Jordanian
Metaphorical Expressions: A Comparative Study
between AI and Human Interpretation

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ABSTRACT

This study aims at exploring metaphorical conceptualizations of the most common expressions in Jordanian Arabic through a comparative analysis between human interpretation and Artificial Intelligence (AI)-based interpretation. Depending on the theoretical bases of Conceptual Metaphor Theory (Lakoff & Johnson, 1980) and Cultural Linguistics, the current study examines the way by which metaphors are constructed cognitively and culturally in the human mind in comparison to how they are produced computationally through AI systems. This paper adopts a qualitative, descriptive, and comparative design, including the purposive selection of fourteen culturally rooted Jordanian metaphors. The human interpretations were gathered from a sample of native speakers of Jordanian Arabic through both interviews and written responses, while AI interpretations were produced through wide language models such as ChatGPT and Gemini. The analysis of data mainly included the conduct of conceptual and cultural mapping based on the theoretical frameworks adopted in the study to identify the main notable metaphor comprehension differences. Accordingly it has been noticed that AI has the ability to imitate the metaphorical conceptual structure based on the mechanisms of Conceptual Metaphor Theory with relatively high accuracy

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تصور التعبيرات الاستعارية الشائعة في اللهجة الأردنية: دراسة مقارنة بين تفسير الذكاء الاصطناعي والتفسير البشري

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المستخلص:

تستكشف هذه الدراسة تصور التعبيرات الاستعارية الشائعة في العربية الأردنية من خلال مقارنة بين البشر والذكاء الاصطناعي. بالاستناد إلى نظرية الاستعارة المفاهيمية (لاكوف وجونسون، 1980) واللسانيات الثقافية (شريف، 2011)، تم تحليل 14 استعارة شائعة باستخدام تصميم نوعي وصفي ومقارن. جمعت تصورات البشر من الناطقين الأصليين بالعربية الأردنية، بينما ولد الذكاء الاصطناعي تفسيرات باستخدام نماذج لغوية كبيرة (GPT و جيميني). أظهرت النتائج أن الذكاء الاصطناعي قادر على محاكاة البنية الميكانيكية للاستعارات بدقة، لكنه يفتقر إلى فهم المخططات الثقافية الخاصة. بالمقابل، قدم البشر تفسيرات أكثر دقة وملاءمة سياقية، خصوصاً في التعبيرات المتعلقة بالعلاقات الاجتماعية والمبالغة والصور الثقافية. وتشير الدراسة إلى أن الذكاء الاصطناعي أداة مساعدة في تحليل الاستعارات، لكنه لا يغني عن التفسير البشري المتجذر ثقافياً. تساهم هذه الدراسة في فهم معالجة الاستعارات لدى البشر والذكاء الاصطناعي، مع تداعيات على اللغويات الحاسوبية والتواصل بين الثقافات وتطوير الذكاء الاصطناعي في فهم اللغة الطبيعية.

الكلمات المفتاحية: تفسير الذكاء الاصطناعي، التفسير البشري، التعبيرات الاستعارية، التعبيرات البشرية.

1 Background of the study

Figurative language is characterized by its decorative and aesthetic functions, which impart a distinctive beauty to a text or discourse. This is because figurative expressions carry a creative and imaginative dimension, in contrast to conventional literal language use. Accordingly, a figurative expression implies that language usage reveals meaning beyond the literal interpretation, as the literal meaning does not convey the extended figurative sense associated with an alternative conceptual meaning. For example, figurative constructions such as metonymy and metaphor are present in our language and cognition (Dancygier & Sweetser, 2014). Figurative meaning constitutes a fundamental component of linguistic structures, as it represents a cognitive mechanism that helps clarify our understanding of abstract concepts through concrete experience. Thus, figurative language serves as a tool that reflects human cognitive processes (Lakoff & Johnson, 1980). Metaphorical language can be juxtaposed with literal applications of language, wherein the meaning of an expression is directly derived from the meanings of its constituent elements (Ariel, 2002). Hence, metaphors pertain to any lexeme or expression that encompasses various connotations that extend beyond the literal denotation of the term. These non-literal significances, which are accentuated, may vary and are likely to be contingent upon contextual factors (Jackendoff, 1990). Contemporary linguists assert that metaphors are extensively utilized in quotidian life, and metaphoric applications can be discerned in language, cognition, and behavior (Gibbes, 1994). It is important to mention in this context that figurative language especially metaphoric expressions are widely prevalent under the study of computational perspective, in the sense that ,AI devises are highly used during the process of metaphorical conceptualizations(Shutova, 2010)). This justifies the need for deep investigation for the way by which AI devices can be effective in the clear interpretation of metaphoric expressions, particularly cultural related ones. Hence, the current paper explores the conceptualization of common metaphorical expressions in Jordanian Arabic through a comparative analysis of human and Artificial Intelligence (AI) interpretations. Drawing on Conceptual Metaphor Theory (Lakoff & Johnson, 1980) and Cultural Linguistics (Sharifian, 2011), the research investigates how metaphors are cognitively and culturally structured in

human minds versus computationally generated by AI systems. A qualitative, descriptive, and comparative research design was adopted; involving the purposive selection of 15–20 culturally embedded Jordanian metaphors. Human conceptualizations were collected from a diverse group of native Jordanian speakers via interviews and written responses, while AI interpretations were generated using a large language model (e.g., GPT). The analysis of data required conceptual and cultural mapping using the adapted theoretical framework to identify the main differences in metaphorical understanding

2- Literature review

The related literature that provide contextual support for this study highlight the interaction between cultural context, human cognition, and the potential of activating artificial intelligence in this field. The metaphorical expressions understanding among Jordanians relies depend on their embodied experiences as well as social and cultural frameworks. This, in turn, leads to the production of sophisticated and context-sensitive interpretations that reveal both social values and lived experiences (Abu Rumman et al., 2024; Zibin, 2019).

Moreover, it is important to mention that this cultural foundation not only shapes metaphorical conceptualizations across various domains—including emotions, social interactions, and political discourse—but also creates a notable variation among related dialects. This represents a concrete evidence that cultural filtering plays a crucial role in the processes of metaphor comprehension and translation) Zibin et al., 2016 ؛Zibin et al., 2025.(

On the other hand, AI models don't carry the ability to provide accurate interpretations of Jordanian metaphorical expressions because of their disregard for embodied cognition, common-sense reasoning, and rich cultural backgrounds (Naous et al., 2023; Qian et al., 2024). These models basically depend on Western-oriented databases, which limits their effectiveness in dealing with figurative language associated with specific cultures (Zibinet al., 2025). Despite continuous efforts to improve and develop training data in order to enhance culturally relevant input and fine-tune models to improve performance, these advancements still do not fully bridge the gap between human interpretive abilities and those of artificial intelligence.

The need to develop highly diverse, comprehensive, and culturally representative datasets arises from the evident disparity between human interpretation and that of artificial intelligence. Such datasets should encompass the full range of Jordanian metaphorical expressions whose interpretation relies on context) Naous et al., 2023.(

It is worth noting that although previous studies have relied on Conceptual Metaphor Theory and Critical Metaphor Analysis to provide methodological support through diverse research approaches—such as corpus analysis, questionnaires, and interviews—challenges concerning sample representativeness, data scope, and methodological transparency still persist. These challenges create obstacles that limit the replicability of studies and the ability to make cross-study comparisons) Zibin et al., 2016). For example, the integration of social media, cartoons, and songs helps enhance understanding; however, it requires the development of standardized methodologies to systematically address cultural variation (Language and Cognition Journal, 2021).

Studies related to the interpretation of metaphorical expressions indicate the presence of significant complexity in the figurative meanings specific to certain cultures. These studies explain, to a certain extent, some of the most common difficulties faced by translators as a result of semantic ambiguity and cultural specificity—challenges that artificial intelligence is currently unable to handle effectively) Zibin ، 2019 Zibin et al., 2016). Current research trends aim to integrate dynamic cultural knowledge with contextual awareness in AI-based language models in order to achieve greater accuracy and sensitivity in metaphor interpretation (Qian et al., 2024). Naturally, this requires interdisciplinary collaboration and efforts to expand linguistically and culturally diverse resources, which would contribute to the development of AI models capable of achieving a more context-based understanding of metaphors within a broader Jordanian and Arab framework(Zibin et al., 2025 ؛Naous et al., 2023) .

3-Problem Statement

Recently, huge studies have been conducted under the study of metaphorical language, as it is multidisciplinary filed of research. Additionally, the power of cultural contexts is obviously dominates the conceptualizations of such metaphoric expressions as a human role in the interpretation of metaphorical production. However, AI devices also

contributes to metaphorical conceptualizations as a part of the AI applicant's revolution. Thus, this paper aims to shed light on the difference between human and AI devices in terms of metaphorical conceptualizations for common cultural Jordanian metaphoric expressions as an attempt to explore metaphorical conceptualization depth and accuracy.

4- Research Objectives

- 1- To explore the conceptualization of common Jordanian metaphoric expressions in terms of cultural variation for the selected metaphoric expressions.
- 2- To compare between AI and human conceptualization for common Jordanian metaphorical expressions.

5 - Research Questions

- 1-What is the human conceptualization for the selected common Jordanian metaphorical expressions?
- 2-What is the difference between AI and human conceptualization for the selected common Jordanian metaphorical expressions?

6 Theoretical framework

6- 1 Conceptual Metaphor Theory

With the advancement of cognitive linguistics, metaphor has assumed a significant role in shaping our cognitive processes and our lived experiences more broadly. A substantial corpus of research investigating the utilization of metaphors in quotidian discourse has concluded that when individuals articulate a metaphorical concept, they engage with the latent dimensions that extend beyond the immediate concept, thereby transferring their comprehension from the literal to the extraordinary. Consequently, linguists have initiated inquiries into the significance of metaphor within language and its interrelation with cognitive processes. Various perspectives have emerged to elucidate the genesis of this phenomenon and its ubiquity in our daily existence. According to Lakoff and Johnson (1980).

“Metaphor is for most people a device for poetic imagination and rhetorical flourish a matter of extraordinary rather than ordinary language. Moreover, metaphor is typically viewed as characteristic of language alone, a matter of words rather than thoughts or actions. For this reason, most people think they can get along perfectly well without

metaphor. We have found, on the contrary, that metaphors are pervasive in everyday life not just in language but in thought and action” (p. 3). Lakoff (1987) posits that metaphor transcends mere nomenclature; it represents a cognitive framework as much as it does a rhetorical device. In this context, metaphor “is a process by which we understand and structure one domain of experience in terms of another domain of different kind” (Johnson, 1987, p. 15). Thus, within the framework of Western culture, metaphor is deemed pivotal to both rhetorical practice and the examination of language and cognition.

Conceptual Metaphor Theory was initially articulated by Lakoff and Johnson in their seminal text *Metaphors We Live By* (1980). This theoretical framework posits that metaphors entail a dual-domain model: a mapping (or transference) of conceptual structures from one semantic domain (the source domain) to another (the target domain) (Lakoff & Johnson, 1980). These domains are predicated on the premise that human conceptual structures are systematically organized into domains of experiential knowledge (e.g., physical entities, living organisms, spatial dimensions, etc.). According to Conceptual Metaphor Theory (CMT), the meanings ascribed to linguistic expressions are fundamentally anchored in embodied experience (Lakoff & Johnson, 1980). Embodied experience, for instance, can be conceptualized as “seeing our body as a container” to elucidate language and cognition, whereby the application of conceptual metaphors confines the meanings of words and phrases, thereby facilitating the interpretation of linguistic expressions (Gibbs, 2008, p. 9). This perspective contends that our cognitive faculties draw upon a conceptual system informed by the shared attributes and characteristics of our corporeal forms and the environment we inhabit. For instance, in the realm of emotions, embodiment can be construed as a resultant manifestation of the interplay between emotional states such as anger or joy and their corresponding mental states and physical representations.

In order to elucidate this perspective more comprehensively, Lakoff designated the primary contexts and situations that are contingent upon cultural experiences as ‘source domains’; these domains are distinctly tangible and unambiguous (e.g., warfare), while he referred to the more intricate and abstract contexts to which the terminologies are applicable as ‘target domains’ (e.g., discourse). Subsequently, this systematic

representation of both domains is encapsulated by the concept of ‘Metaphorical Mapping,’ which integrates two disparate domains, thereby influencing our experiences and reasoning within quotidian language (Callis & Zimmerman, 2002, p. 7). Such mappings, which constitute an integral component of the cognitive process, emerge with varying degrees of automaticity and consequently affect the manner in which we think, experience, and communicate within our environmental context. It is observable that the relationship between the domains ‘discourse’ and ‘warfare’ is prevalent in a multitude of expressions; this mapping “arises from correlations of our normal everyday expressions” (Lakoff & Johnson, 1999, p. 47). In the aforementioned example, our comprehension of discourse is projected onto our understanding of warfare. Within this mapping, the source domain “warfare” embodies the abstract implications inherent in the target domain “DISCOURSE”. We engage in discussions concerning the victory and defeat of a discourse, as well as concepts of defending, attacking, or even capitulating. Individuals may adopt specific strategies, tactics, or plans that may be indefensible. Furthermore, discourses can be dismantled or invalidated (Lakoff & Johnson, 1980, p. 4)

6-2 Universality of Metaphorical Conceptualization

The study of metaphorical expressions within any culture helps us understand how its members construct and map their experiences of the world, then reflect them in their native language (Al-Zoubi et al., 2007, pp. 231–232). Cognitive linguistics suggests that metaphor arises from the mind, brain, and bodily experiences of the speaker factors considered more universal than either language or social representation. Many scholars who follow the view of metaphor proposed in Lakoff and Johnson’s *Metaphors We Live By* (1980) argue that conceptual metaphors are largely universal. However, these scholars also critique this perspective for overlooking the apparent diversity of metaphor across and within cultures (Kövecses, 2006, p. 1).

Cognitive linguists have not paid more attention to the diversity of metaphorical conceptualization across languages and cultures than to universal aspects; instead, they have mainly focused on the question of why certain conceptual metaphors are universal or near universal. The logical answer, since Kövecses (2008), has been that it is the embodied nature of these metaphors that makes them (near-) universal (Kövecses,

2006). According to Kövecses (2006), the same conceptual metaphors that have been described as universal have also been described as diachronically constant. The justifying evidence for this view is derived from the work of Sweetser (1990), who proposed that most of the conceptual metaphors considered cross-linguistically widespread today were already fully functional several thousand years ago.

6-3 Cultural Variations of Metaphorical Conceptualization

It would be misleading to detach the most universal concepts completely from those whose variation is related to culturally specific reasons. This is because even these universal conceptual metaphors, as described by Lakoff and Johnson (1980), are also influenced by cultural factors; they suggest that “all experience is cultural and through [...] we experience our 'world' in such a way that our culture is already present in the very experience itself” (p. 57). They continue by saying that our concepts depend on cultural factors which carry a tendency to be more physical, universal, or more cultural. To underline this, consider the orientational concept *up-down* as it relates to “*happy*”- “*sad*”; the orientational metaphor “*happy is up*” is rather universal. That is why the system of “*rational - emotional*” is not as clear as the former, as the attribution of the orientation is culturally determined. It is clear that the understanding of the concept depends on two different and separable experiential bases, which refer to the metaphorical concepts *up-down*. Whether “*rational is up*” or “*emotional is up*” depends on the cultural and personal presuppositions of an individual and the surrounding cultural environment (Lakoff & Johnson, 1980, p. 20). For example, Calls and Zimmermann (2002) suggest that “in our western industrial society, the tendency is toward the concept ‘*rational is up*’ as these societies need the rational way of thinking and handling our emotion to be successful in our society” (p. 12). From this argument, we can conclude that material value is very important in Western industrial societies, which attach great importance to resources that serve purposeful and material enrichment (Calls & Zimmermann, 2002, p. 12). Furthermore, such societies can be described as being given particular materialistic value, as shown by the metaphorical concept “*time is a resource*” in examples like “he wastes his time.” These expressions, used in some societies to say that they are running out of time, are affected by certain societal values, while in other parts of the world, time may be conceptualized differently. Cultural

values are therefore coherent with the metaphorical system (Lakoff & Johnson, 1980, p. 65).

Both political life and geography influence our conceptual structure as well as the structure of our society. It also participates in forming a considerable difference whether we belong to an urban or rural background while concepts that depend on buildings and transport are likely to be more readily available to an urban person. A rural person would

Be more inclined to incorporate concepts of landscape, animals, and species. Urban people, for instance, might prefer the concept of a machine to represent strength, while others might refer to a strong and huge animal like a bear an example that aligns with the Sapir-Whorf hypothesis (Gibbs, 1994, p. 438).

In fact, traditional metaphorical expressions, which once emerged in the countryside still existed even in the speech of people living in a city. These expressions are determined by historical aspects even though they may have been subject to a change of meaning even if the linguistic expression survives; its conceptual background can be changed.

7 Methodology

The present study adopts a qualitative, descriptive, and comparative research design. In order to examine the conceptualization of culturally embedded metaphorical expressions in Jordanian Arabic commonly spoken by native speakers and to compare these human conceptualizations with those produced through an Artificial Intelligence (AI) language model. The research is based on cognitive and cultural linguistics and covers cross-disciplinary perspectives from computational language processing.

The study mainly follows a purposive sampling approach to select the most 14 common metaphorical expressions from Jordanian Arabic, emphasizing on those largely used, rich in cultural and cognitive implications, and reflective of local values, norms, or emotions. The selected expressions were imarged from native speaker consultations, social media discourse, Jordanian proverb collections, dictionaries, and existing studies on Arabic metaphors. Accordingly, a variant group of 10 native Jordanian Arabic speakers provided interpretations through written responses or semi-structured interviews. Participants were responsible for the tasks of paraphrasing each metaphor, explaining its underlying

meaning, cultural context, and emotional tone, as well as identifying any conceptual metaphors. Similarly, these metaphors were presented to a large language model, with AI responses generated using controlled prompts designed to emulate human-way of explanations and interpretations. The outputs from both human and AI participants were then transcribed, coded, and analyzed thematically. Finally, Conceptual Metaphor Theory (CMT) was employed to the human interpretations to explore underlying source-target mappings, while Cultural Linguistics was adopted to investigate the culturally-specific schemas and values hidden beyond each metaphorical expression.

While AI-generated interpretations were analyzed using the same theoretical frameworks (CMT and cultural schemas) to test: whether conceptual mappings are present; and the way by which they are culturally relevant or accurate.

A parallel comparison was conducted for each metaphor:

Similarities and differences in mappings of metaphors:

Degree of cultural awareness;

Conceptual depth, precision, and contextual relevance.

Hence the results were categorized under sup categories such as:

Accurate cultural alignment; Superficial/generalized interpretation; Misinterpretation or literal translation.

In order to achieve the strategies of validity and reliability for the study's findings, particular verification and ethical measures were employed. Obviously a member checking procedure was used, in which some participants revised again the categorized interpretations as an attempt to validate their accuracy.

Furthermore, peer review by linguistic experts was conducted to critically assess the conceptual analysis. In parallel, the robustness of the AI data was ensured by running multiple queries to assess consistency and variation in the generated responses. All human participants provided informed consent prior to their involvement, and their personal data were anonymized to protect their privacy. Finally, AI responses were handled responsibly and their distinct origin was clearly indicated within the subsequent analysis to avoid misattribution.

8 Findings and Discussion

8-1 The common Jordanian metaphoric expressions

Here are the collected Jordanian metaphoric expressions that will be analyzed later in the following sections.

Metaphor (Arabic)	Literal Translation
دمه ثقيل	His blood is heavy
رأسه يابس	His head is dry
طلع روعي	He pulled out my soul
بطنه كبير	His belly is big
قلبه حجر	His heart is a stone
إيده طويلة	His hand is long
وجهه مقلوب	His face is flipped
قلبه أبيض	His heart is white
طلعت روجه	His soul came out
حيطه واطية	A low wall

صوته طالع للسما	His voice is up to the sky
فتحلي قلبي	He opened my heart
عيونه تاكل	His eyes eat
بيحط النار على قلبه	He puts fire on his heart

Table (1): common Jordanian metaphoric expressions.

(Source: authors)

8-2 Conceptual metaphors cross-domains mappings

In this section source and target domains will be clarified according to Lakoff and Johanson model of conceptual metaphor (1980)

Metaphor (Arabic)	Literal Translation	Source Domain	Target Domain (Meaning)
دمه ثقيل	His blood is heavy	PHYSICAL WEIGHT	PERSONALITY / SOCIAL APPEAL
رأسه يابس	His head is dry	PHYSICAL HARDNESS / DRYNESS	STUBBORNNESS
طلع روعي	He pulled out my soul	PHYSICAL EXTRACTION	EXTREME ANNOYANCE / EXHAUSTION
بطنه كبير	His belly is big	PHYSICAL SIZE	GREED / DESIRE FOR MORE

قلبه حجر	His heart is a stone	HARD OBJECT / STONE	EMOTIONAL COLDNESS
إيده طويلة	His hand is long	PHYSICAL EXTENSION	TENDENCY TO STEAL
وجهه مقل	His face is flipped	INVERTED POSITION	ANGER / BAD MOOD
قلبه أبيض	His heart is white	COLOR (WHITE)	KINDNESS / PURITY
طلعت روحه	His soul came out	SOUL LEAVING BODY	FATIGUE / DESPAIR
حيطه واطية	A low wall	STRUCTURAL HEIGHT	EASE OF BEING EXPLOITED
صوته طالع للسما	His voice is up to the sky	VERTICAL MOVEMENT / HEIGHT	LOUDNESS / ANGER
فتحلي قلبي	He opened my heart	OPENING CONTAINER	EMOTIONAL CONNECTION / TRUST
عيونه تاكل	His eyes eat	CONSUMPTION / EATING	ENVY / GREEDY LOOKS
بيحط النار على قلبه	He puts fire on his heart	FIRE	EMOTIONAL PAIN / JEALOUSY

Table (2) : source/ target domains (source/authors)

8-3 Human interpretation for common Jordanian metaphoric expressions

The following table clarifies conceptual mappings in the collected metaphoric expressions according to CMT as it was suggested by human.

Arabic	Literal _ Translation	Human _ Interpretation
دمه ثقيل	His blood is heavy	Interferes in matters, disliked, unpleasant, unlikable
راسه يابس	His head is dry	Stubborn, hard to convince, inflexible
طلع روعي	He pulled out my soul	Difficult to persuade, disrespectful of opinions
بطنه كبير	His belly is big	Demanding, greedy, takes without giving

قلبه حجر	His heart is a stone	Unforgiving, domineering, lacks compassion
إيده طويلة	His hand is long	Thief, uses violence to get what he wants
وجهه مقلوب	His face is flipped	Angry, received bad news
قلبه أبيض	His heart is white	Kind, forgiving, compassionate
طلعت روحه	His soul came out	Under pressure, very sick, suffering
حيطة واطية	A low wall	Weak, defenseless, lacks support
صوته طالع للسما	His voice is up to the sky	Angry, provoked by others
فتحلي قلبي	He opened my heart	Likable, easy to deal with, cheerful
عيونه تاكل	His eyes eat	Envious, desires what others have
بيحط النار على قلبه	He puts fire on his heart	Exaggerates reactions, blows things out of proportion

Table (3) Human interpretation for common Jordanian metaphoric expressions

8-4 AI interpretation for common Jordanian metaphoric expressions

The following tables clarify conceptual mappings in the collected metaphoric expressions according to CMT as it was suggested by AI device

Metaphor (Arabic)	Literal Translation	Source Domain	Target Domain	Conceptualization
دمه ثقيل	His blood is heavy	PHYSICAL WEIGHT	PERSONALITY / SOCIAL INTERACTION	The physical sensation of something being

				heavy (difficult to lift or bear) is mapped onto the social experience of finding someone unpleasant, boring, or difficult to tolerate.
راسه يابس	His head is dry	PHYSICAL STATE OF OBJECTS	PERSONALITY / BEHAVIOR	The physical property of being dry (lacking moisture, rigid, or hard to bend) is mapped onto the behavioral trait of being stubborn, unyielding, or inflexible in one's opinions.
طلع روحي	He pulled out my soul	PHYSICAL EXTRACTION	EMOTIONAL SUFFERING / ANNOYANCE	The extreme physical pain and effort of extracting a person's soul is a hyperbolic source used to conceptualize the intense mental or emotional exhaustion caused by someone's demanding or difficult behavior.

بطنه كبير	His belly is big	PHYSICAL SIZE	GREED / SELFISHNESS	A physically large belly is mapped onto the abstract concept of greed or a lack of selfcontrol, suggesting a desire to consume excessively for
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				oneself.
قلبه حجر	His heart is a stone	PHYSICAL MATERIAL	EMOTION / COMPASSION	The physical properties of a stone—being hard, cold, and unfeeling—are mapped onto the abstract idea of a person lacking sympathy, empathy, or kindness.
إيده طويلة	His hand is long	PHYSICAL LENGTH	THEFT / CRIMINAL BEHAVIOR	The physical ability to reach far is mapped onto the social concept of having the capability or tendency to steal, implying a reach for things that don't belong to one.
وجهه مقلوب	His face is flipped	PHYSICAL ORIENTATION	EMOTION / MOOD	The physical act of something being inverted or flipped is used to describe a person's negative or sad mood, as if their usual expression has been turned upside down.

قلبه أبيض	His heart is white	PHYSICAL COLOR	PERSONALITY / MORALITY	The color white, often associated with purity and innocence in many cultures, is used to conceptualize a person's good intentions, kindness, and moral integrity.
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طلعت روحه	His soul came out	PHYSICAL EXTRACTION	INTENSE EFFORT / EXHAUSTION	This metaphor uses the ultimate act of physical exertion—the soul leaving the body—to express that a task or situation required immense effort, patience, or caused extreme exhaustion.
حيطه واطية	A low wall	PHYSICAL BARRIER	SOCIAL VULNERABILITY	A low wall (something easy to climb over or disregard) is the source domain for a person who is easily exploited, taken advantage of, or lacks power to defend themselves socially.

صوته طالع للسما	His voice is up to the sky	PHYSICAL DIRECTION / HEIGHT	VOLUME / ANGER	The physical direction of upward movement toward the sky is mapped onto the conceptualization of a very loud volume, often associated with shouting or expressing intense emotion like anger.
فتحلي قلبي	He opened my heart	PHYSICAL ACTION ON AN OBJECT	TRUST / INTIMACY	The physical act of opening something to access what's inside is used to conceptualize the
				act of revealing one's inner feelings or confiding in another person, creating intimacy and trust.
عيونه تاكل	His eyes eat	PHYSICAL CONSUMPTION	ENVY / GREED	The physical process of eating is a source for intense desire. The metaphor maps the act of consuming onto the way someone looks at another person's possessions with intense envy or covetousness.

بيحط النار على قلبه	He puts fire on his heart	PHYSICAL SENSATION / ACTION	EMOTIONAL DISTRESS / SUFFERING	The physical sensation of burning from fire is the source for intense emotional distress, sadness, or psychological pain, indicating a person is deliberately causing themselves emotional turmoil or grief.
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Table (4): metaphorical expressions conceptualizations (source: Gemini AI device)

Ghat GPT

Metaphor (Arabic)	Literal Translation	Conceptual Metaphor (Source → Target)	Discussion / Cultural Notes
دمه ثقيل	His blood is heavy	BLOOD → PERSONALITY TRAIT (Heaviness = Unpleasantness)	Describes someone as boring or unpleasant; heaviness of blood

			metaphorically conveys difficulty in social interaction.
راسه يابس	His head is dry	HEAD → OBJECT (Dryness/Hardness = Stubbornness)	Maps stubbornness onto physical rigidity; culturally implies resistance to advice.
طلعّ روحي	He pulled out my soul	SOUL → OBJECT (Removal = Extreme Annoyance)	Used when someone causes irritation; annoyance understood as loss of life force.

بطنه كبير	His belly is big	BELLY → SOCIAL TOLERANCE (Size = Generosity)	A big belly symbolizes patience, tolerance, and generosity in Jordanian culture.
قلبه حجر	His heart is a stone	HEART → OBJECT (Stone = Cruelty/Harshness)	Emotionlessness or cruelty mapped to hardness of stone.
إيده طويلة	His hand is long	HAND LENGTH → DISHONESTY/POWER	Metaphor for theft or corruption; long hands signify extended reach into others' property.
وجهه مقلوب	His face is flipped	FACE → STATE (Inversion = Anger/Bad Mood)	A flipped face metaphorically expresses anger or unhappiness.
قلبه أبيض	His heart is white	HEART → COLOR (White = Purity/Kindness)	Whiteness symbolizes innocence, honesty, and goodness.
طلعت روحه	His soul came out	SOUL → ESSENCE (Departure = Death/Exhaustion)	Can describe literal death or figurative extreme exhaustion.
حيطه واطية	A low wall	WALL → SOCIAL POSITION (Low = Vulnerability)	Represents someone easily taken advantage of due to weakness or low status.
صوته طالع للسما	His voice is up to the sky	VOICE → VERTICAL SPACE (Height = Loudness)	High verticality maps to intensity; describes very loud shouting.
فتحلي قلبي	He opened my heart	HEART → CONTAINER (Opening = Emotional Relief/Comfort)	Emotional openness conceptualized as physical opening of a container.
عيونه تأكل	His eyes eat	EYES → MOUTH (Desire = Eating)	Used for greed or lust; strong desire metaphorically equated with consumption.

بيحط النار على قلبه	He puts fire on his heart	FIRE → EMOTION (Fire = Pain/Jealousy/Anger)	Fire mapped to emotional suffering; reflects cultural link between burning and inner turmoil.
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Table (5): metaphorical expressions conceptualizations (source: Chat Gpt AI device)

8-5 Comparative analysis for common Jordanian metaphoric expressions (Human verses AI)

The aim of the analysis is to examine if conceptual mappings are perpetually clear in the Jordanian metaphoric expressions interpretations and also to test the extent of cultural significance in human versus AI-generated conceptualizations. The comparative analysis explores similarities and differences between human interpretations and the those produced by Gemini AI and ChatGPT.

Firstly, the results indicate that CMT mappings were clear across most expressions.

Examples such as دمه ثقيل (his blood is heavy), راسه يابس (his head is dry), قلبه حجر (his heart is a stone), and إيداه طويلة (his hand is long) revealed Obvious alignment between human and AI interpretations, with both identifying clear conceptual correspondences such as heaviness mapped onto unpleasantness, rigidity onto stubbornness, hardness onto cruelty, and long reach onto theft. Similarly, expressions like (حيطه واطية) (his soul came out) (قلبه ابيض) (his face is flipped) (وجهه مقلوب) (

his voice is up to the sky), and عيونه تاكل (his eyes eat) conveyed stable conceptualizations across interpretations, Highlighting accurate cultural and metaphorical coherence.

Secondly, some expressions demonstrated partial or superficial interpretations. For instance, راحي طلع (he pulled out my soul) and فتحي قلبي (he opened my heart) were interpreted by AI in ways that captured the abstract emotional dimension but lacked the socially specific nuances offered by human conceptualizations. While humans emphasized the social qualities of likability and ease of interaction, AI tended to generalize the expressions to themes of intimacy, trust, or emotional relief.

Thirdly, notable divergences appeared in certain metaphors where AI and human interpretations differed significantly. In بطنه كبيرة (his belly is big),

humans and Gemini AI associated the expression with greed and selfishness, whereas ChatGPT suggested an alternative schema linking it to generosity and tolerance, which, although culturally plausible in wider Arabic contexts, diverges from the Jordanian- specific meaning. A similar divergence was observed in *بيحط النار على قلبه* (he puts fire on his heart), where humans emphasized the cultural schema of exaggeration, while AI systems interpreted it as emotional suffering or psychological distress. These cases highlight the limits of AI in fully grasping the social and contextual embeddedness of Jordanian metaphoric expressions. In regard to the research objectives, the results indicate that human conceptual frameworks are consistently rooted in culturally ingrained schemas that mirror Jordanian social values and interactional norms. Artificial intelligence systems, notably Gemini AI, exhibit robust structural adherence to Conceptual Metaphor Theory (CMT) principles by effectively delineating source and target domains; however, they frequently fall short in encapsulating the comprehensive cultural subtleties. ChatGPT

offers more extensive cultural annotations but, at times, presents conflicting schemas. This differentiation corresponds with the research inquiries: human conceptualizations are firmly grounded in social and cultural contexts, whereas AI interpretations, despite their systematic nature, often tend to be either abstractly generalized or partially divergent. Overall, the findings imply that while AI possesses the capability to replicate the structural mechanics of CMT-based mappings with a notable degree of precision, it remains deficient in its reliability to accurately reflect culturally specific schemas. In contrast, human interpretations exhibit greater conceptual accuracy and contextual relevance, particularly in expressions related to social relationships, hyperbole, and culturally specific imagery. This suggests that AI may function as an adjunctive tool for metaphor analysis, yet it cannot supplant the nuanced understanding inherent in culturally embedded human interpretation.

9 Conclusion

it has been noticed that, the systems of AI show solid CMT-based mappings but are not clearly reliable in cultural patterns. Deeper social and cultural awareness is notably revealed through human

conceptualizations, particularly in metaphors related to social relationships, exaggeration, and culturally specific imagery. Metaphorical language can be juxtaposed with literal applications of language, wherein the meaning of an expression is directly derived from the meanings of its constituent elements (Ariel, 2002). Hence, metaphors pertain to any lexeme or expression that encompasses various connotations that extend beyond the literal denotation of the term. These non-literal significances, which are accentuated, may vary and are likely to be contingent upon contextual factors (Jackendoff, 1990). Contemporary linguists assert that metaphors are extensively utilized in quotidian life, and metaphoric applications can be discerned in language, cognition, and behavior (Gibbes, 1994). It is important to mention in this context that figurative language especially metaphoric expressions are widely prevalent under the study of computational perspective, in the sense that ,AI devises are highly used during the process of metaphorical conceptualizations(Shutova, 2010)). This justifies the need for deep investigation for the way by which AI devices can be effective in the clear interpretation of metaphoric expressions, particularly cultural related ones. Hence, the current paper explores the conceptualization of common metaphorical expressions in Jordanian Arabic through a comparative analysis of human and Artificial Intelligence (AI) interpretations. Drawing on Conceptual Metaphor Theory (Lakoff & Johnson, 1980) and Cultural Linguistics (Sharifian, 2011), the research investigates how metaphors are cognitively and culturally structured in human minds versus computationally generated by AI systems. A qualitative, descriptive, and comparative research design was adopted; involving the purposive selection of 15–20 culturally embedded Jordanian metaphors. Human conceptualizations were collected from a diverse group of native Jordanian speakers via interviews and written responses, while AI interpretations were generated using a large language model (e.g., GPT). The analysis of data included both conceptual and cultural mapping through the adapted theoretical frameworks in order to identify main differences in the understanding of t the metaphorical understanding.

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