

**THE METAPHORICAL FEATURES OF PHRASEOLOGICAL UNITS EXPRESSING
THE INNER WORLD OF A PERSON (IN UZBEK AND ENGLISH LANGUAGES)**

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Abstract

Idioms and metaphors help speakers express abstract inner experiences—especially emotions—by linking them to familiar sensory and cultural images. This review brings together 10 studies (1996–2022) using norming databases, self-paced reading, fMRI, and corpus analysis to explain how figurative language is processed in English, German, and Cantonese. Overall, comprehension follows a hybrid pattern: familiar and more literal-sounding expressions are easier to integrate in context, while strongly figurative items tend to feel more emotionally intense and engage embodied neural systems (including emotion-related regions such as the amygdala). Norm resources (PANIG, COMETA, MIST) also show modality-based affective trends, with visual metaphors leaning more positive and tactile ones more negative. Cross-cultural findings reveal shared body-part metaphor structures that can be used to support second-language teaching.

Keywords: idioms; metaphors; psycholinguistic norms; emotional processing; figurative language; embodied cognition; cross-cultural linguistics

Introduction

Figurative language—especially idioms and metaphors—helps people talk about inner experiences that are hard to describe plainly. Emotions, attitudes, and private mental states rarely feel “neat” or fully measurable, so speakers rely on imagery. Idioms are fixed expressions whose meanings cannot be predicted from the individual words (e.g., kick the bucket = “to die”), while metaphors explain an abstract idea through a more familiar domain (e.g., time is money). In both cases, meaning draws on embodied experience (what we sense and feel) as well as culturally shared ways of thinking.

For decades, psycholinguistic research has debated how such expressions are understood. Are idioms retrieved as ready-made units (direct access), or are they built up word by word (compositional processing)? Current evidence favors a flexible, hybrid view: comprehension depends on factors such as familiarity, how literal an idiom seems, and the context in which it appears (Gibbs et al., 1997; Libben & Titone, 2008).

Beyond comprehension speed and accuracy, researchers have also focused on the emotional force of figurative language. Studies suggest idioms can feel more emotionally “alive” than literal paraphrases, possibly because they activate richer sensory and motor associations (Citron et al., 2019). Although this is evident in languages like German and English, cross-linguistic differences are also important: cultures differ in which images become conventional and what emotional meanings those images tend to carry (Kövecses & Szabó, 1996; Leung & Peter, 2011). To capture these patterns, scholars have developed norm databases measuring familiarity, transparency, and imageability, while corpus research shows which figurative themes are most common in everyday usage (Rafatbakhsh & Ahmadi, 2019).

Even so, findings across experiments, norming projects, corpus work, and neuroimaging are often discussed separately. As a result, it remains difficult to see how cognitive and emotional factors interact moment by moment during interpretation. This review addresses that gap by bringing together evidence from self-paced reading, norming studies, fMRI research, and cognitive-semantic analyses to clarify the multidetermined nature of idiom and metaphor processing and its relevance for embodied cognition and second-language learning.

Methods

This review synthesizes results from 10 peer-reviewed studies published between 1996 and 2022. Studies were selected for methodological rigor and for offering complementary perspectives on idioms and metaphors. Inclusion required: (1) primary psycholinguistic data (e.g., reading times, comprehension or judgment tasks); (2) affective measures (e.g., valence/arousal norms or emotional responses); (3) a cognitive-semantic or cross-cultural component; and (4) a focus on English, German, or Cantonese to allow comparison across linguistic contexts.

Studies were identified through DOI-based searching and targeted database queries for abstracts and full texts (including Springer-hosted publications and related academic indexes). Search strings typically combined titles with terms such as abstract or PDF, followed by screening for relevance and methodological fit.

The included studies fall into three broad groups:

Experimental paradigms, including self-paced reading on context and literalness (Beck & Weber, 2020), semantic judgment and comprehension tasks on idiom motivation (Gibbs et al., 1997; Libben & Titone, 2008), and fMRI studies of figurative language and emotion (Citron et al., 2019). Norming studies, which provide Likert-scale ratings of psycholinguistic variables (familiarity, transparency, imageability) and affective variables (valence, arousal), including PANIG (Citron et al., 2016), COMETA (Citron et al., 2020), and MIST (Müller et al., 2022).

Corpus and semantic analyses, drawing on large corpora such as COCA (Rafatbakhsh & Ahmadi, 2019) and cognitive-semantic mapping of metaphor/metonymy with cross-cultural comparison (Kövecses & Szabó, 1996; Leung & Peter, 2011).

For synthesis, findings were coded into three recurring dimensions: (a) processing facilitation (context, predictability, literalness), (b) emotional intensity (links between figurativeness and arousal/valence), and (c) theoretical alignment (support for hybrid processing accounts). Comparable quantitative results were organized for cross-study comparison; no meta-analysis was conducted due to heterogeneous measures and designs.

Results

Across the reviewed studies, idiom and metaphor processing emerges as a layered phenomenon shaped by (a) expression-level properties, (b) contextual support, (c) emotional engagement, and (d) cultural and thematic patterns of use. The most consistent findings are summarized below.

Psycholinguistic and affective norms. Norming databases provide a detailed profile of idioms and metaphors—how familiar they seem, how transparent they are, and how vivid or imageable they feel. In PANIG (619 German idioms), many items were rated as highly familiar, while transparency tended to be moderate. Importantly, higher figurativeness was associated with lower transparency and higher arousal, suggesting that strongly figurative idioms are often harder to interpret “literally” but can be more emotionally activating (Citron et al., 2016).

COMETA extended norming to conceptual metaphors in sentences and short stories. Metaphorical materials were typically rated as more imageable and strongly metaphorical, while isolated metaphorical sentences were less familiar—likely because narratives provide richer support than single, decontextualized lines (Citron et al., 2020). MIST focused on sensory-based metaphors for internal state terms and found structured links between valence and arousal (often a U-shaped pattern, with extreme positivity or negativity associated with higher arousal). It also reported modality patterns, with visual metaphors trending more positive and tactile metaphors more negative (Müller et al., 2022).

Overall, these datasets show that figurativeness is not simply present or absent: idioms and metaphors vary systematically in interpretability, vividness, and emotional impact—and those differences have measurable consequences for processing.

Table.



| Database | N Items | Key Psycholinguistic Norms | Key Affective Norms | Notable Correlations |
|--|----------------------------|---|---|--|
| PANIG (Idioms; Citron et al., 2016) | 619 | Familiarity: High; Transparency: Moderate; Concreteness: Mostly abstract | Valence: Quadratic with arousal; Arousal higher for negatives | Arousal ↑ with figurativeness, familiarity ($r > 0.20$); Positive idioms more familiar |
| COMETA (Metaphors; Citron et al., 2020) | 120 sentences + 64 stories | Imageability: Higher for metaphors; Familiarity: Lower for metaphorical sentences | Arousal: Higher for metaphors; U-shaped valence-arousal | Imageability ↑ arousal (large r); Metaphoricity ↓ familiarity |
| MIST (Sense metaphors; Müller et al., 2022) | 289 | Familiarity: High; Imageability: Moderate; Aptness: High | Valence: Sensory-specific (visual positive); Arousal: Strong | Basic emotions tied to senses (e.g., tactile → disgust) |

Unambiguous idioms (with no plausible literal reading) tend to be more strongly valenced and more arousing than ambiguous idioms, showing a clear emotional “boost” for figurativeness. Processing effects: context, literality, and metaphoricity. Self-paced reading studies indicate that literality shapes how idioms integrate with context. High-literality idioms (e.g., break the ice) are facilitated in congruent contexts but slow down when context forces an incongruent reading. Low-literality idioms (e.g., lose one’s cool) default to figurative interpretations and incur costs when a literal resolution is attempted (Beck & Weber, 2020). Decomposability helps with offline meaning judgments but has limited impact on early online processing; familiarity is the most reliable predictor across tasks (Libben & Titone, 2008). Metaphor-consistent priming (e.g., IDEAS ARE FOOD) speeds figurative judgments for matching idioms like digest that (Gibbs et al., 1997). Corpus work (COCA) also suggests idioms cluster around recurring themes (e.g., secrecy, criticism), supporting usage-based accounts (Rafatbakhsh & Ahmadi, 2019). Emotional and neural responses. Neuroimaging shows idioms can elicit stronger affective engagement than valence/arousal-matched literal sentences, activating emotion-related and semantic-control regions more robustly (Citron et al., 2019). Norming studies similarly find negative idioms are typically more arousing than positive ones. Cross-linguistic research on body-part idioms shows shared metaphor–metonymy patterns (e.g., HEAD FOR INTELLIGENCE), but cultural differences matter for L2 learning; explicit comparison-based teaching improves retention (Leung & Peter, 2011).

Discussion

Overall, the evidence supports hybrid processing: early analysis interacts with direct access, and outcomes are strongly shaped by familiarity, literality, and context (Libben & Titone, 2008; Beck & Weber, 2020). Conceptual metaphor provides the organizing logic behind many idioms (Kövecses & Szabó, 1996; Gibbs et al., 1997), while affective and neural findings suggest figurative language intensifies emotion through embodied activation (Citron et al., 2016; Citron et al., 2019; Müller et al., 2022). Pedagogically, theme-based corpus-informed teaching and cross-



cultural comparison are especially effective for idiom learning (Rafatbakhsh & Ahmadi, 2019; Leung & Peter, 2011).

Conclusion

Overall, the reviewed studies show that idiom and metaphor comprehension is shaped by both cognition and emotion. Processing is flexible—guided by familiarity and context—while figurative expressions often feel more vivid and emotionally engaging because they draw on sensory and conceptual mappings. Future research that combines experimental methods, neuroimaging, and classroom-focused work across more languages can deepen our understanding and improve figurative-language teaching.

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