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Embodied Measurement and Cultural Cognition in Kazakh and English Mesurative Idioms: A Comparative Body–Mind–Culture Perspective

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ABSTRACT

Objective: This study compared Kazakh and English mesurative idioms to examine how bodily, perceptual, and sociocultural experiences shape figurative representations of measurable phenomena.

Methods and Materials: A comparative linguocultural and cognitive-semantic design was employed. Mesurative idioms were collected from Kazakh phraseological and explanatory dictionaries, literary and folklore materials, scholarly sources, and English idiom dictionaries, explanatory dictionaries, and corpus-based resources. Each expression was coded according to semantic domain, mesurative component, literal and figurative meaning, evaluative connotation, embodied or perceptual basis, and cultural motivation. Descriptive, contrastive, componential-semantic, linguocultural, and cognitive analyses were then conducted.

Findings: Five principal domains emerged: temporal span, size and quantity, distance and space, money and value, and age and life stage. Across both languages, literal measures frequently underwent semantic transformation into relative and evaluative meanings such as near/far, short/long, small/large, and light/heavy. Particularly in spatial and temporal idioms, bodily reach, visual perception, movement, recurrent activities, and culturally familiar actions served as cognitive reference points. Kazakh expressions were more strongly associated with pastoral practices, traditional temporal routines, and culturally embedded spatial experience, whereas English expressions more often drew on monetary, conventional measurement, and everyday spatial imagery.

Conclusion: Mesurative idioms demonstrate how apparently quantitative concepts are transformed through embodied perception and culturally organized experience. Rather than functioning merely as lexical remnants of measurement systems, these expressions reveal an interaction among bodily experience, cognitive representation, and cultural memory. The findings support an interdisciplinary understanding of phraseology as a domain in which body, mind, and culture jointly shape the linguistic construction of human experience.

Keywords: Mesurative Idioms, Embodied Cognition, Cultural Cognition, Linguoculturology, Cognitive Semantics, Comparative Phraseology.

Introduction

Measurement is often treated as a technical operation through which human beings assign numerical values to properties such as time, distance, size, weight, quantity, and economic value. From a cognitive perspective, however, the experience of measurement is not exclusively numerical or abstract. People encounter magnitude through bodily movement, visual perception, spatial orientation, recurrent activities, material objects, and socially shared routines. Language provides an important record of these experiences because expressions referring to measurable phenomena frequently extend beyond literal quantity and develop figurative, evaluative, and culturally conventionalized meanings. Contemporary research on embodied cognition has increasingly shown that the representation of abstract concepts can recruit perceptual and sensorimotor systems, although the degree and form of such embodiment may vary across linguistic constructions and conceptual domains (Desai, 2022; Feist & Duffy, 2023).

This embodied perspective is particularly relevant to phraseology. Idioms are conventionalized expressions, yet their meanings are not necessarily arbitrary. Their figurative structure may preserve traces of bodily action, perceptual experience, spatial interaction, socially recurrent practices, and historically established cultural knowledge. Recent cognitive-linguistic research therefore approaches phraseological units not simply as fixed lexical combinations but as linguistic structures through which recurrent patterns of conceptualization become conventionalized. Orazbayeva et al. (2026), for example, argue that phraseological constructions can encode cognitive models and culturally embedded knowledge rather than functioning solely as formal grammatical structures. Similarly, cognitive analyses of Kazakh and English phraseology have demonstrated that expressions sharing a broadly comparable communicative meaning may nevertheless rely on different figurative and conceptual foundations, emphasizing the importance of cultural context in the organization of idiomatic meaning (Shalkarbek et al., 2024).

The relation between bodily experience and figurative conceptualization is especially apparent in domains involving space and time. Spatial experience is

inherently embodied: individuals perceive distance relative to their bodies, orient themselves toward objects, estimate what can be reached or seen, and experience motion through physical environments. These experiences can subsequently provide cognitive structures for understanding more abstract phenomena. Experimental evidence indicates that linguistic conventions and bodily experience interact in the formation of spatial conceptual mappings. Mansoori & Nassiri (2022), for instance, found that patterns of language use contributed substantially to associations between spatial position and evaluative meaning, suggesting that embodiment cannot be separated from linguistic conventionalization. Likewise, Zhang et al. (2022) demonstrated across English- and Persian-speaking participants that culturally established spatial metaphors affected the processing and evaluation of visual arrangements. Such findings support a view of conceptualization in which bodily experience, language, and culture operate interactively rather than independently.

Time provides an equally important example of this interaction. Because time cannot be directly perceived in the same manner as a physical object, speakers frequently conceptualize temporal relations through spatial orientation, movement, distance, material value, and recurrent bodily or social activities. A cross-cultural investigation involving 14 languages showed that metaphors for time differed systematically across linguistic and cultural contexts and included conceptual patterns such as time as motion, time as space, and time as a valuable commodity (Khatin-Zadeh et al., 2023). Feist & Duffy (2023) similarly emphasize that metaphorical perspectives on time emerge from both embodied and enculturated experience, with variation occurring across languages, communities, contexts, and individuals. Thus, even when different linguistic communities rely on broadly comparable embodied experiences, those experiences need not be organized, lexicalized, or conventionalized in identical ways.

Mesurative idioms are particularly informative in this respect because they occupy an intersection between concrete measurement and figurative conceptualization. In the present study, the term *mesurative idioms* refers to phraseological units whose structure contains or evokes a component associated with measurement, including time, distance, size, quantity, weight, financial value, and

age. Within such expressions, an originally concrete measure may cease to represent precise magnitude and instead become a relative or evaluative marker. Expressions denoting a physical distance, for example, may come to mean “very near” or “extremely far,” while units associated with weight or quantity may express intensity, difficulty, scarcity, abundance, or subjective evaluation. This transition from measurable magnitude to figurative meaning makes mesurative idioms particularly suitable for examining how sensory and bodily experience becomes cognitively reorganized and culturally conventionalized in language.

The comparison between Kazakh and English provides a valuable context for examining this process because the two languages developed within substantially different historical, ecological, and sociocultural settings. Recent studies of Kazakh and English phraseology have increasingly demonstrated that numerical and figurative expressions contain both cross-linguistic similarities and culture-dependent conceptual distinctions. [Ayupova et al. \(2024\)](#) found that numerical phraseological units in Kazakh and English exhibit substantial semantic and structural conventionalization while also reflecting culture-dependent patterns of ethnocultural representation. [Shalkarbek et al. \(2024\)](#) likewise showed that hyperbole-based phraseological expressions in the two languages may share general figurative mechanisms while differing in their specific conceptual organization. More recently, [Кыдырмолдина et al. \(2025\)](#) demonstrated that numerical phraseological units in Kazakh and English encode culturally differentiated symbolic associations and patterns of interpretation. Collectively, these findings suggest that comparative phraseology can reveal not only linguistic difference but also variation in how culturally situated communities organize recurrent human experiences.

Nevertheless, existing Kazakh-English research has concentrated predominantly on phraseological units containing explicit numerals, symbolic numbers, hyperbole, or other broad classes of figurative expression ([Ayupova et al., 2024](#); [Shalkarbek et al., 2024](#); [Кыдырмолдина et al., 2025](#)). Considerably less attention has been devoted to mesurative idioms as a distinct category—that is, expressions constructed around culturally meaningful experiences and concepts of duration, spatial extent, bodily reach, quantity, weight,

material value, and stages of life. This distinction is theoretically important. A numeral primarily specifies or symbolizes quantity, whereas a mesurative element may derive its meaning from an embodied or culturally standardized act of measuring. Consequently, expressions based on the duration of a familiar activity, the reach of the hand, the limits of vision, the movement of an object, or a culturally familiar material unit can potentially reveal how objective magnitude is transformed into lived, subjective, and socially shared experience.

This issue also calls for caution in interpreting idioms as straightforward representations of a homogeneous “national worldview.” Cultural differences in phraseology should not automatically be treated as evidence of fixed psychological traits or essential characteristics of entire societies. Rather, cultural motivation can be understood as a historically situated set of conventional associations made available through recurrent practices, material environments, discourse traditions, and collective experience. Recent cross-cultural work on metaphor indicates that bodily foundations can coexist with substantial linguistic and cultural variation ([Feist & Duffy, 2023](#); [Khatin-Zadeh et al., 2023](#); [Zhang et al., 2022](#)). Accordingly, the present study treats mesurative idioms as linguistic evidence of culturally patterned conceptualization, rather than as direct measures of psychological characteristics of Kazakh- or English-speaking populations.

Approaching mesurative phraseology from this perspective creates a conceptual bridge among body, mind, and culture. The “body” is implicated through perceptual and sensorimotor reference points such as reaching, seeing, moving, carrying, weighing, and performing temporally bounded activities; the “mind” is involved in converting such concrete experiences into relative, metaphorical, and evaluative concepts; and “culture” contributes to determining which activities, objects, measures, and images become conventionalized and transmitted through language. This integrated perspective is consistent with recent interdisciplinary approaches that treat phraseological meaning as cognitively grounded and culturally situated ([Orazbayeva et al., 2026](#)). It also enables a more precise interpretation of similarities between languages: common semantic oppositions such as near–far, short–long, small–large, light–heavy, or little–much may reflect broadly shared

dimensions of human embodied experience, whereas the linguistic images through which these oppositions are expressed can remain culturally distinctive.

Against this background, the present study aims to compare mesurative idioms in Kazakh and English by examining their phraseosemantic organization, figurative transformation, embodied or perceptual grounding, and cultural motivation. Rather than treating measurement expressions exclusively as linguistic markers of quantity, the study investigates how measurable experience is transformed into culturally meaningful cognitive representations. Specifically, it addresses the following research questions: What major phraseosemantic domains characterize mesurative idioms in Kazakh and English, particularly those associated with time, distance, size and quantity, weight, value, and age? How do concrete mesurative components undergo semantic transformation from literal measurement to figurative, relative, and evaluative meanings? What embodied and perceptual reference points—including bodily reach, vision, movement, recurrent activity, and interaction with material objects—motivate these expressions? Which similarities and differences in the two languages can be interpreted in relation to culturally situated practices and experiences without reducing them to broad or essentialized cultural stereotypes?

By addressing these questions, the study seeks to extend previous research on numerical and culturally marked phraseology and to demonstrate that mesurative idioms constitute a productive site for investigating the interaction of embodied experience, cognitive representation, and cultural conventionalization.

Methods and Materials

Study Design

This study employed a comparative linguocultural and cognitive-semantic design to investigate mesurative idioms in Kazakh and English. The analysis was primarily qualitative, with descriptive quantitative procedures used to summarize the distribution of phraseological units across semantic domains. The unit of analysis was an individual conventionalized phraseological expression containing a lexical component associated with measurement or relative magnitude.

In accordance with the aims of the study, mesurative idioms were examined not only as linguistic expressions of quantity or measurement but also as culturally situated representations of embodied and perceptual experience. Particular attention was therefore given to expressions grounded in bodily reach, visual perception, movement, recurrent activities, material objects, traditional systems of measurement, and socially conventionalized practices. This approach allowed the study to investigate the interaction among literal measurement, figurative conceptualization, embodied cognition, and cultural motivation.

Data Sources and Corpus Construction

The empirical material was compiled independently for Kazakh and English. To reduce dependence on a single type of source and to improve the representativeness of the dataset, phraseological units were retrieved from several complementary categories of linguistic material.

For Kazakh, the sources included: phraseological dictionaries of the Kazakh language; explanatory dictionaries; scholarly articles and dissertations addressing Kazakh phraseology, ethnolinguistics, linguoculturology, and the linguistic categories of number and measure; literary works and folklore materials in which conventionalized phraseological expressions were attested; and corpus-based or contextual sources used to verify doubtful, infrequent, or potentially historical expressions.

For English, the sources included: established dictionaries of English idioms; general explanatory dictionaries, including Oxford and Cambridge lexicographic resources; peer-reviewed scholarly publications on idiomatic and phraseological meaning; contextual examples from published materials.

The initial search yielded 247 candidate expressions in Kazakh and 238 candidate expressions in English. Following duplicate removal and screening for phraseological integrity, mesurative relevance, sufficient attestation, and semantic suitability, 85 expressions were excluded. The final analytic dataset therefore consisted of 400 mesurative phraseological units, including 200 Kazakh expressions and 200 English expressions.

The final dataset was deliberately balanced across the two languages to permit transparent descriptive comparison of their phraseosemantic distributions. The

numbers for each language were retained separately throughout the analysis. Because corpus composition can influence proportional comparisons, both raw frequencies (*n*) and within-language percentages (%) were calculated for each phraseosemantic domain. Accordingly, cross-language differences were interpreted descriptively as patterns observed within the assembled analytic corpus and were not treated as estimates of the absolute prevalence of particular idiom types in the entire Kazakh- or English-speaking populations.

Identification and Screening of Mesurative Idioms

Potential items were identified through systematic examination of the selected lexicographic, textual, scholarly, and corpus sources. An expression was considered for inclusion when it contained a lexical or conceptual element related to measurement, including duration, spatial distance, physical size, quantity, weight, capacity, monetary or material value, or age/life stage.

All candidate items were subjected to a two-stage screening procedure. During the first stage, potentially relevant expressions were collected without imposing a final semantic classification. During the second stage, each candidate was evaluated against the predefined inclusion and exclusion criteria.

An expression was included when it met all of the following criteria:

Mesurative relevance: The expression contained a component or image associated with measurable magnitude, including time, distance, size, quantity, weight, capacity, value, or age.

Phraseological integrity: The expression functioned as a relatively fixed and semantically conventionalized unit rather than as a freely generated combination of words.

Figurative or conventionalized meaning: The overall meaning of the expression could not be reduced entirely to the literal meanings of its individual components, or the mesurative element had acquired a conventional relative or evaluative meaning.

Attestation: The expression was documented in at least one recognized lexicographic source or was supported by sufficiently clear contextual evidence from scholarly, literary, folklore, or corpus materials.

Semantic contribution of the mesurative element: The measurement-related component contributed meaningfully to the semantic structure of the expression rather than occurring incidentally.

Cross-source verification for doubtful cases: When the idiomatic status, meaning, register, or contemporary relevance of an expression was uncertain, an additional source or corpus-based example was sought before inclusion.

Expressions were excluded when they: represented literal measurements without evidence of phraseological or figurative conventionalization; were free combinations that could be generated productively without idiomatic status; occurred only as isolated lexical terms without sufficient phraseological integrity; lacked adequate documentary or contextual support; duplicated another expression without a meaningful semantic or structural distinction; or represented ordinary age labels or measurement terminology rather than genuine phraseological units.

The final criterion was particularly important for the age and life-stage category. Ordinary lexical labels referring to age groups were not treated as idioms merely because they designated a stage of life. They were retained only when they occurred within a conventionalized phraseological construction or possessed an established figurative or socially evaluative meaning.

Data Screening and Normalization

Before coding, the collected expressions were reviewed for duplication, orthographic variation, and semantic overlap. Identical items obtained from multiple sources were treated as a single phraseological unit, while source information was retained as evidence of attestation. Orthographic or minor grammatical variants were grouped together when they represented the same underlying idiom and did not differ in meaning.

Where two formally similar expressions had clearly different figurative meanings, they were coded as separate semantic realizations. Historical or potentially archaic items were not automatically excluded; instead, their usage status was recorded and interpreted separately from expressions supported by contemporary evidence.

For English expressions in particular, claims concerning current usage were based on dictionary usage labels and/or evidence from the corpus resources actually consulted. Expressions identified as archaic, dated, literary, historical, regional, or infrequent were labelled accordingly and were not described as common in contemporary speech without supporting evidence.

The same principle was applied to historically marked Kazakh expressions.

Coding Framework

A structured coding form was created for each phraseological unit. The coding framework was

developed from the objectives of the study and incorporated semantic, cognitive, embodied, evaluative, and linguocultural dimensions (Table 1).

Each item was recorded according to the following parameters:

Table 1

Coding structure

Coding category	Description
Language	Kazakh or English
Phraseological unit	Conventionalized expression in its original form
Source	Dictionary, corpus, literary text, folklore source, or scholarly publication
Usage status	Contemporary, historical, literary, colloquial, regional, archaic, or unclear
Mesurative component	Measurement-related word, image, action, or conceptual reference
Semantic domain	Time, distance/space, size/quantity, weight, money/value, age/life stage, or other
Literal meaning	Original physical or measurable interpretation
Figurative meaning	Conventionalized non-literal or relative meaning
Degree of semantic shift	Low, moderate, or high loss of literal measurement meaning
Evaluative connotation	Positive, negative, neutral, or context-dependent
Embodied/perceptual basis	Reach, vision, bodily movement, physical effort, weight, orientation, recurrent action, etc.
Cognitive model	For example, TIME AS MOTION, DISTANCE AS BODILY REACH, QUANTITY AS CONTAINED MATERIAL, or WEIGHT AS DIFFICULTY
Cultural motivation	Everyday practice, pastoral activity, trade, household activity, traditional measurement, material culture, social practice, etc.
Cross-linguistic relation	Close equivalent, partial functional equivalent, culturally specific analogue, or no direct equivalent

This coding structure was used consistently for both languages in order to avoid comparing expressions on the basis of impressionistic similarity alone.

Phraseosemantic Classification

Following screening, the retained idioms were grouped into major phraseosemantic domains. The primary domains were: temporal span; distance and space; size and quantity; weight and physical magnitude; money and value; age and life stage; and other relative or evaluative meanings where appropriate.

Assignment to a semantic field was based on the figurative function of the complete idiom rather than solely on the dictionary meaning of the mesurative component. When an expression could plausibly belong to more than one field, its dominant contextual meaning was used as the primary category, while secondary meanings were recorded separately.

This procedure was particularly important for expressions such as *a handful*, in which a quantity-related component can also develop a figurative interpersonal meaning. Such cases were not assumed to have identical semantic functions across languages merely because their literal measurement components appeared similar.

Componential-Semantic Analysis

Componential-semantic analysis was used to examine the transformation of the mesurative element within

each phraseological unit. For every idiom, the literal meaning of the measurement-related component was first identified and subsequently compared with its meaning within the complete expression.

The analysis focused on three processes: reduction or loss of literal measurement precision; development of relative semantic meanings such as very near, very far, very short, very long, very small, very large, little, much, cheap, or valuable; and emergence of evaluative, affective, or expressive connotations.

Rather than assuming complete desemantization in every case, the analysis treated semantic change as a continuum. Some idioms retained a recognizable connection with their original measurement meaning, whereas others exhibited a substantially conventionalized figurative interpretation.

Embodied and Cognitive-Semantic Analysis

To strengthen the cognitive dimension of the analysis, embodied and perceptual motivation was examined systematically rather than mentioned only as a general theoretical principle.

Each expression was assessed for the presence of recurrent experiential reference points, including: bodily reach; visual field; eye movement or blinking; locomotion and physical movement; throwing or manipulation of objects; physical weight and effort; containment and grasping; recurrent household

activities; pastoral or agricultural activities; movement through physical space; and interaction with culturally familiar objects or units.

These experiential structures were subsequently related to broader cognitive models. Examples included conceptualizing distance through bodily reach or field of vision, duration through recurrent action or movement, quantity through containment, and physical heaviness through subjective intensity or difficulty.

The purpose of this stage was not to assume that every idiom directly reflected an embodied metaphor. Rather, an embodied interpretation was assigned only when the lexical structure, literal image, and conventional figurative meaning provided sufficient evidence for such a relationship.

Linguocultural Analysis

The linguocultural analysis examined the cultural practices, material environments, historical activities, and socially conventionalized experiences underlying individual expressions. Particular attention was paid to the cultural motivation of idioms referring to household practices, animal husbandry, traditional systems of time estimation, spatial orientation, trade, monetary units, and everyday material objects.

Cultural interpretations were derived from documented linguistic or ethnographic information whenever possible rather than from broad assumptions about national character. Accordingly, differences between Kazakh and English expressions were interpreted as differences in culturally available conventional imagery and historically situated practices, not as direct evidence of fixed psychological characteristics of Kazakh- or English-speaking populations.

For example, when a Kazakh temporal idiom referred to the duration of a familiar pastoral or household activity, that activity was examined as a culturally conventionalized temporal reference point. Likewise, an English expression based on a unit of currency, a physical action, or a conventional unit of distance was interpreted within the historical and pragmatic context supported by its source.

Cross-Linguistic Comparison

The Kazakh and English datasets were compared at three levels.

First, the distribution of idioms across the predefined semantic domains was compared using raw frequencies

and percentages. Second, expressions with broadly similar communicative functions were compared in terms of their literal images, figurative meanings, embodied reference points, evaluative connotations, and cultural motivation. Third, the analysis examined whether apparently comparable idioms represented: close phraseological equivalents; functional equivalents with different imagery; partial semantic equivalents; or culture-specific expressions without a direct counterpart.

The study therefore did not assume that expressions were equivalent merely because they belonged to the same semantic category. Particular attention was paid to differences in phraseological status, register, historical usage, figurative meaning, and degree of conventionalization.

Quantitative Descriptive Analysis

Descriptive statistics were used only to summarize the composition of the analytic dataset. For each language, the number and percentage of expressions assigned to each phraseosemantic field were calculated.

Percentages were calculated within each language separately so that differences in total corpus size would not be concealed. The revised results tables therefore report both *n* and % for Kazakh and English.

No inferential statistical test was used to claim population-level differences in idiom frequency because the material was compiled from purposively selected lexicographic, textual, and corpus resources rather than from probability samples of the complete phraseological systems of the two languages. Consequently, numerical differences were interpreted as characteristics of the present analytic corpus and not as definitive estimates of the prevalence of particular idiom types in Kazakh or English as a whole.

Reliability and Validation

Several procedures were used to improve the credibility and consistency of the classification.

First, phraseological units were cross-checked across multiple sources whenever possible. Expressions whose phraseological status or semantic interpretation was uncertain were examined using additional contextual or corpus-based evidence.

Second, the coding framework was applied consistently to both languages. The same criteria were used to determine phraseological integrity, semantic

field, figurative meaning, evaluative connotation, embodied motivation, and cultural motivation.

Third, five specialists with expertise in linguistics collaboratively reviewed ambiguous classifications. Disagreements concerning the phraseological status, semantic category, or linguocultural interpretation of an item were resolved through consensus discussion.

Fourth, potentially problematic English expressions were checked for dictionary labels and corpus evidence to avoid categorizing archaic or literary idioms as common contemporary expressions. Comparable checks were conducted for traditional or historically marked Kazakh units.

Transparency and Reproducibility

To improve analytical transparency, the final dataset should be accompanied by a supplementary coding file containing, at minimum, the idiom, language, source, semantic domain, literal meaning, figurative meaning, evaluative connotation, usage status, embodied/cognitive motivation, and linguocultural motivation. Presenting the complete or representative coding dataset makes it possible for readers to examine how individual expressions were assigned to semantic fields and how cross-linguistic comparisons were derived.

The study distinguishes between the frequency of items within the assembled research corpus and their actual frequency in natural language use. Statements such as “more common,” “frequent in contemporary speech,” or “productive in English/Kazakh” were therefore made only where supported by corpus frequency information or explicit usage labels in reliable lexicographic sources.

Ethical Considerations

The study was based exclusively on dictionaries, published academic sources, literary and folklore texts, and publicly accessible corpus or language materials. It did not involve human participants, experimental

procedures, interviews, surveys, identifiable personal information, or clinical data. Therefore, institutional ethics approval and informed consent were not required. All linguistic examples derived from published or corpus sources were attributed to their respective sources where required. The study involved no intervention with human participants and no collection or processing of sensitive personal data.

Findings and Results

Corpus Characteristics

Following screening, duplicate removal, and application of the predefined eligibility criteria, the final analytic corpus consisted of 400 mesurative phraseological units. The dataset was balanced across the two languages, with 200 Kazakh and 200 English expressions included in the analysis.

All retained expressions contained a measurement-related component associated with one or more of the following conceptual domains: temporal span, size and quantity, distance and space, money and value, age and life stage, or other relative and evaluative meanings. Expressions functioning exclusively as literal measurements or ordinary lexical labels without phraseological integrity were excluded.

Because the two language datasets were equal in size, raw frequencies and within-language percentages could be compared directly at the descriptive level. No inferential statistical tests were applied because the corpus was compiled from purposively selected lexicographic, textual, and corpus-based materials rather than from a probability sample of language use.

Distribution of Mesurative Idioms Across Phraseosemantic Fields

Table 2 presents the distribution of the 400 mesurative idioms across the six major phraseosemantic fields.

Table 2

Distribution of Mesurative Phraseological Units by Semantic Field in Kazakh and English

Phraseosemantic field	Kazakh, n	Kazakh, %	English, n	English, %
Temporal span	60	30.0	50	25.0
Size and quantity	40	20.0	50	25.0
Distance and space	30	15.0	30	15.0
Money and value	20	10.0	40	20.0
Age and life stage	30	15.0	20	10.0
Other meanings	20	10.0	10	5.0

Total	200	100.0	200	100.0
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Temporal-span expressions constituted the largest category in the Kazakh dataset, accounting for 60 of the 200 expressions (30.0%). Size-and-quantity expressions represented 40 cases (20.0%), whereas distance-and-space and age-and-life-stage expressions each accounted for 30 cases (15.0%). Money-and-value expressions and other mesurative meanings each represented 20 cases (10.0%).

In the English dataset, temporal-span and size-and-quantity expressions constituted the two largest categories, with 50 expressions (25.0%) in each field. Money-and-value idioms accounted for 40 cases (20.0%), distance-and-space idioms for 30 cases (15.0%), age-and-life-stage expressions for 20 cases (10.0%), and other meanings for 10 cases (5.0%). The distance-and-space field had the same proportional representation in the two datasets (15.0%). The largest descriptive between-language difference was observed

in the money-and-value field, which represented 10.0% of the Kazakh corpus and 20.0% of the English corpus.

Temporal-Span Idioms

Temporal-span idioms represented 110 of the 400 expressions in the complete corpus. Of these, 60 occurred in the Kazakh dataset and 50 in the English dataset. The Kazakh material included expressions such as *қас пен көздің арасы*, *сүт пісірім уақыт*, *шай қайнатым уақыт*, and *бие сауымдай уақыт*. These expressions encoded relative temporal duration rather than mathematically exact units of time.

The English dataset included expressions such as *in a blink of an eye*, *in no time*, *in the space of a minute*, *for ages*, and *donkey's years*. The expressions covered different degrees of temporal duration, ranging from very brief intervals to prolonged periods. Table 3 presents representative examples according to their principal semantic function.

Table 3

Representative Mesurative Idioms Denoting Temporal Span

Temporal meaning	Kazakh example	English example	Principal figurative meaning
Very short duration	<i>қас пен көздің арасы</i>	<i>in a blink of an eye</i>	Almost immediately
Short duration	<i>сүт пісірім уақыт</i>	<i>in no time</i>	A relatively short period
Short/limited duration	<i>шай қайнатым уақыт</i>	<i>in the space of a minute</i>	Brief temporal interval
Relatively extended duration	<i>бие сауымдай уақыт</i>	<i>for ages</i>	Extended period
Very long duration	—	<i>donkey's years</i>	Very long period

Across these expressions, the literal temporal reference was generally replaced by a relative characterization of duration. The principal semantic contrasts identified in this field were short versus long and immediate versus prolonged duration.

Distance and Space Idioms

Distance-and-space expressions accounted for 60 items in the complete corpus, comprising 30 Kazakh and

30 English expressions. The Kazakh dataset included *қол созым жерде*, *көз ұшында*, *ит арқасы қиянда*, and *ит өлген жер*. The English dataset included *a stone's throw away*, *a country mile*, and *miles from anywhere*. The expressions were classified primarily according to whether they conveyed near, intermediate, or far spatial relations.

Table 4

Representative Mesurative Idioms Denoting Distance and Space

Spatial meaning	Kazakh example	English example	Measurement/reference basis
Near	<i>қол созым жерде</i>	<i>a stone's throw away</i>	Bodily/action-based reference
Intermediate/perceptible distance	<i>көз ұшында</i>	<i>not far</i>	Visual/spatial reference
Far	<i>ит арқасы қиянда</i>	<i>a country mile</i>	Extended distance
Very far	<i>ит өлген жер</i>	<i>miles from anywhere</i>	Hyperbolic distance

Coding of the examples showed that spatial distance could be represented through bodily reach, visual range,

physical movement, conventional units of distance, or hyperbolic spatial imagery. The near–far opposition was present in both language datasets (Table 4).

Size, Quantity, and Weight

Size-and-quantity expressions accounted for 90 items in the full corpus, including 40 Kazakh and 50 English expressions. Weight-related meanings were analyzed

within this broader field when the measurement component expressed physical magnitude, heaviness, smallness, or relative amount. Representative Kazakh expressions included *ат басындай алтын*, *тай тұяқ алтын*, *бір уыс*, *бір шөкім*, and *бір тұтам*. English examples included *weighs a ton*, *pint-sized*, and *a handful*.

Table 5

Representative Mesurative Idioms Denoting Size, Quantity, and Weight

Semantic function	Kazakh example	English example	Figurative value
Very large/heavy	<i>ат басындай алтын</i>	<i>weighs a ton</i>	Large magnitude or heaviness
Very small	<i>бір тұтам, бір шөкім</i>	<i>pint-sized</i>	Small size
Small quantity	<i>бір уыс</i>	<i>a handful</i>	Limited quantity
Relative magnitude	<i>тай тұяқ алтын</i>	—	Size/value expressed relatively

The coding showed that literal expressions of physical size, weight, or amount frequently acquired non-exact meanings. In several cases, the same measurement-related form could also develop an additional evaluative meaning. For example, English *a handful* could refer either to a limited quantity or, in a different idiomatic use, to a person who is difficult to manage. Such meanings were coded separately when they represented distinct conventionalized senses (Table 5).

Money and Value

The money-and-value category contained 60 expressions overall, consisting of 20 Kazakh and 40 English items. The Kazakh material contained measurement-related expressions associated with traditional units or objects of material value, including *тайтұяқ*, *қойтұяқ*, and *күміс жамбы* when these occurred within phraseologically relevant contexts. The English dataset contained expressions such as *not a penny to my name*, *nary a dime*, *not worth a groat*, and related constructions in which monetary units contributed to figurative evaluations of possession, poverty, worth, or insignificance.

The semantic coding identified three principal functions within this field: absence or scarcity of money, low value or worthlessness, and possession/material value. No quantitative claim regarding the contemporary frequency of individual money-related expressions was made unless supported by explicit corpus evidence or dictionary usage labels. Historical, dated, literary, or archaic expressions were therefore retained as linguistic data where relevant but were distinguished from expressions with clearly documented contemporary use.

Age and Life Stage

Age-and-life-stage expressions accounted for 50 items in the complete dataset, including 30 Kazakh and 20 English expressions. Following the revised screening criteria, ordinary age labels were not counted solely because they referred to a stage of life. An item was retained only if it occurred as part of a conventionalized phraseological construction or displayed an established figurative or evaluative meaning.

The English data included expressions such as *long in the tooth*, *in one's second childhood*, *age is just a number*, and *you can't teach an old dog new tricks*. These expressions represented different aspects of ageing, youthfulness, perceived age, and age-related behavior. The Kazakh dataset likewise contained phraseologically conventionalized expressions referring to socially recognized stages of life and age-related characteristics. Items functioning exclusively as ordinary lexical terms were excluded during screening.

Semantic Transformation of Mesurative Components

Across all phraseosemantic domains, the analysis identified a recurrent shift from exact or materially grounded measurement toward relative and figurative meaning.

The principal semantic transformations observed in the corpus included:

- exact or concrete duration → short/long duration;
- physical distance → near/far;
- physical size → small/large;
- physical quantity → little/much;

- physical weight → very heavy or intense;
- monetary denomination → low/high value or possession;
- chronological age → figurative characterization of age or life stage.

The degree of semantic transformation varied across expressions. In some cases, the original measurement image remained readily recognizable, whereas in others the expression functioned primarily as a conventional figurative unit.

Table 6

Representative Embodied and Cognitive Reference Patterns in Mesurative Idioms

Reference pattern	Example	Language	Encoded meaning
Bodily reach	<i>қол созым жерде</i>	Kazakh	Near distance
Visual perception	<i>көз ұшында</i>	Kazakh	Perceptible/intermediate distance
Eye movement	<i>in a blink of an eye</i>	English	Very short duration
Object-directed movement	<i>a stone's throw away</i>	English	Near distance
Recurrent activity	<i>сүт пісірім уақыт</i>	Kazakh	Short duration
Recurrent activity	<i>шай қайнатым уақыт</i>	Kazakh	Short duration
Physical weight	<i>weighs a ton</i>	English	Extreme heaviness
Containment/grasping	<i>бір уыс / a handful</i>	Kazakh/English	Small quantity

These coded cases showed that the mesurative component frequently retained an identifiable perceptual, bodily, or action-based reference even after acquiring a conventional figurative meaning.

Cross-Linguistic Correspondence

Cross-linguistic comparison showed three principal types of correspondence between the Kazakh and English material. The first consisted of expressions with broadly comparable figurative meanings and similar experiential reference points, such as *қас пен көздің арасы* and *in a blink of an eye*, both denoting an extremely short interval. The second type consisted of functional equivalents with different literal images. For example, expressions in both languages could indicate proximity or extended duration while drawing on different lexical components or actions. The third type consisted of language-specific expressions for which no close phraseological equivalent was identified in the comparison corpus. Such items were retained as culturally specific members of their respective semantic fields rather than being forced into direct one-to-one equivalence. Overall, the corpus demonstrated shared semantic oppositions across Kazakh and English, including short-long, near-far, small-large, little-much, and low-high value. At the same time, the specific lexical

Embodied and Perceptual Reference Patterns

Application of the revised coding framework identified several recurrent embodied or perceptual reference patterns across the corpus. These included bodily reach, visual range, eye movement, physical movement, manipulation of objects, physical heaviness, containment, and recurrent temporally bounded actions.

Representative examples are presented in [Table 6](#).

and perceptual images through which these meanings were encoded differed across individual expressions.

Discussion and Conclusion

The present study examined mesurative phraseological units in Kazakh and English with particular attention to their semantic organization, figurative transformation, embodied and perceptual grounding, and cultural motivation. The findings showed that mesurative idioms in both languages were distributed across several recurrent domains, particularly temporal span, size and quantity, distance and space, money and value, and age and life stage. Although the two language datasets shared broad semantic oppositions such as short-long, near-far, small-large, little-much, and low-high value, they often differed in the concrete images and conventionalized experiences through which these meanings were expressed. This pattern suggests that mesurative phraseology is shaped by an interaction between broadly shared human experiences of magnitude and culturally available ways of representing those experiences.

Temporal expressions constituted the largest phraseosemantic category in the Kazakh dataset and were also one of the two largest categories in English.

More importantly, expressions in both languages frequently represented duration through perceptually or experientially accessible events rather than through precise clock-based measurement. Kazakh expressions such as *қас пен көздің арасы*, *сүт пісірім уақыт*, and *шай қайнатым уақыт* convert the duration of a bodily or recurrent activity into a relative temporal reference, while English expressions such as *in a blink of an eye* similarly recruit a brief perceptual-motor event to express very short duration. These findings are consistent with research showing that abstract temporal concepts are commonly structured through more concrete domains of bodily movement, spatial experience, recurrent action, and material interaction. In a cross-cultural study involving 14 languages, [Khatin-Zadeh et al., \(2023\)](#) found that time was systematically represented through metaphoric structures such as TIME AS MOTION, TIME AS SPACE, TIME AS AN ORGANISM, and TIME AS A VALUABLE COMMODITY, while the realization and evaluation of these metaphors varied across languages. [Feist & Duffy \(2023\)](#), similarly emphasized that metaphorical perspectives on time emerge from an interaction among embodied experience, linguistic convention, cultural learning, individual experience, and contextual factors.

The present temporal findings are therefore better interpreted as evidence of culturally conventionalized forms of embodied temporal representation than as indications of fundamentally different cognitive systems. Both Kazakh and English speakers share basic bodily experiences such as movement, vision, action duration, and changes in physical surroundings. What differs is the repertoire of experiences that becomes linguistically conventionalized. In the Kazakh data, some temporal expressions referred to recurrent household or pastoral activities, whereas English included expressions based on eye movement and more generalized temporal formulations. Such differences are compatible with the broader position that embodiment provides possible experiential foundations for conceptualization, while language and culture influence which mappings become conventional and salient ([Feist & Duffy, 2023](#); [Khatin-Zadeh et al., 2023](#)).

The analysis of distance and space provides particularly clear evidence for this interaction. Distance-and-space expressions represented the same proportion of the Kazakh and English datasets, and both languages

organized spatial meaning around the basic opposition between proximity and remoteness. Nevertheless, the concrete reference points differed. Kazakh expressions such as *қол созым жерде* and *көз ұшында* use bodily reach and visual range as reference frames, whereas English expressions such as *a stone's throw away* encode proximity through an action performed by the body on an external object. These expressions illustrate how spatial magnitude can be transformed from an objectively measurable dimension into an egocentric and action-oriented representation.

This result is compatible with embodied accounts of conceptual representation, according to which sensorimotor experience contributes to the organization and processing of abstract meaning. Neurocognitive evidence reviewed by [Desai \(2022\)](#) indicates that metaphorical language referring to sensory-motor domains can recruit systems associated with perception and action. At the same time, Desai cautions that embodiment in idioms appears less straightforward than in novel or transparent metaphors, because highly conventionalized expressions may be represented at more schematic levels. This qualification is relevant to the present findings. The identification of bodily reach, visual field, movement, or physical weight in the internal imagery of an idiom should not be interpreted as direct evidence that speakers necessarily simulate the original bodily experience every time the expression is processed. Rather, these patterns establish that embodied experiences remain recoverable components of the semantic and motivational structure of many mesurative idioms.

The contribution of language-specific convention is equally important. [Mansoori & Nassiri \(2022\)](#), comparing Persian speakers and Persian Sign Language users, showed that linguistic patterns can make a substantial contribution to spatial-evaluative conceptual mappings even when bodily experience is similar. [Zhang et al. \(2022\)](#) likewise demonstrated in experiments involving English- and Persian-speaking participants that culturally conventionalized spatial metaphors affected processing preferences for visual arrangements. Together with the present results, these studies argue against explaining mesurative phraseology through bodily experience alone. Bodily and perceptual experience supplies possible reference structures, but

linguistic conventionalization determines how those experiences are lexicalized, stabilized, and transmitted.

The findings for size, quantity, and weight provide further evidence of semantic transformation from objective measurement to subjective magnitude. Expressions such as *бір ұыс* and *a handful* retain an identifiable relationship with the amount that can physically be held, yet they function as relative rather than exact quantifiers. Similarly, *weighs a ton* transforms a formal unit of weight into an intensifier denoting extreme heaviness. In these cases, the measurable property remains accessible while numerical precision is reduced or lost. This supports the view that phraseological meaning can emerge through graded semantic transformation rather than through complete separation from literal meaning.

The prominence of hyperbolic magnitude in this field is consistent with the findings of [Shalkarbek et al. \(2024\)](#), who conducted a cognitive-linguistic comparison of hyperbole-based phraseological expressions in Kazakh and English. Their study showed that the two languages share broad figurative mechanisms while frequently differing in the conceptual details and imagery through which hyperbole is realized. The present findings extend that observation to mesurative phraseology: expressions can share the same general function of intensifying size, quantity, weight, or distance without necessarily sharing an equivalent literal image. Thus, cross-linguistic similarity appears strongest at the level of conceptual function, whereas culturally and linguistically specific differences become more visible at the level of lexical imagery.

An important semantic feature observed in the present analysis was that the same measurement-related image could develop more than one conventionalized meaning. English *a handful*, for instance, can retain a quantity-related interpretation but can also characterize a difficult or demanding person. This illustrates how an embodied source image can undergo further conventionalization and become evaluative. Such examples also caution against assigning equivalents solely on the basis of literal components. Two expressions may appear formally comparable while differing in pragmatic range, connotation, register, or degree of semantic extension.

The money-and-value field displayed the largest proportional difference between the two analytic

datasets, with English containing a greater proportion of expressions in this category. This finding should, however, be interpreted cautiously. It does not demonstrate that English-speaking communities are inherently more economically or materially oriented, nor does it justify conclusions about psychological traits such as individualism or materialism. The pattern may reflect differences in the particular lexicographic inventories, historical monetary systems, conventionalization of monetary expressions, and source materials represented in the present corpus. The finding is therefore most appropriately treated as a descriptive feature of the analyzed dataset.

Nevertheless, the transformation of monetary units into judgments of worth, scarcity, possession, or insignificance is consistent with previous studies showing that numerical and quantitative components can acquire symbolic and culture-dependent functions. [Ayupova et al. \(2024\)](#), in a comparative study of Kazakh and English numerical phraseological units, reported that formally similar numerical elements can participate in different semantic and ethnocultural representations. [Кыдырмолдина et al. \(2025\)](#) likewise found both cross-linguistic correspondences and language-specific patterns among numerical phraseological units in Kazakh and English. The present study extends this perspective from explicit numerals to units and images associated with measurement and material value.

The age-and-life-stage findings also require careful interpretation. Following the revised inclusion criteria, ordinary lexical terms denoting age categories were distinguished from genuine phraseological expressions. This distinction strengthens the comparability of the Kazakh and English material because the object of analysis is phraseological conventionalization rather than age vocabulary in general. The retained expressions showed that chronological age may acquire evaluative or figurative meanings concerning maturity, ageing, behavioral expectations, or perceived vitality. English expressions such as *long in the tooth* and *in one's second childhood*, for example, do more than designate chronological age; they impose an interpretive frame on age-related characteristics. The same analytical principle applies to Kazakh expressions: an age-related item is relevant to mesurative phraseology only when it contributes to a conventionalized meaning beyond simple biological or chronological categorization.

Across all domains, one of the most consistent findings was the coexistence of cross-linguistic conceptual similarity and image-level cultural variation. Kazakh and English both encoded basic experiential dimensions including temporal duration, spatial proximity, quantity, magnitude, heaviness, value, and stages of life. The conceptual contrasts underlying these expressions are therefore not unique to either language. However, the concrete events, objects, actions, and conventional units used to express them differed substantially. This result parallels the conclusion of [Shalkarbek et al. \(2024\)](#) that apparently comparable phraseological constructions in Kazakh and English may contain distinctive conceptual structures, and the findings of [Ayupova et al. \(2024\)](#) that phraseological equivalence does not eliminate ethnoculturally differentiated representation.

These findings also support a view of phraseology as operating between stability and conceptual flexibility. A recent study published in the *International Journal of Body, Mind and Culture* similarly argued that phraseological constructions can function as stable carriers of conventionalized cognitive models while allowing contextual and interpretive variation ([Orazbayeva et al., 2026](#)). In the present study, mesurative expressions preserve recognizable connections with physical magnitude or measurable experience, yet their phraseological meanings extend those experiences into qualitative, evaluative, and context-sensitive interpretations. This transformation explains why a measurement expression can remain semantically motivated even after it has lost the precision associated with literal measurement.

From a body-mind-culture perspective, the findings can be integrated at three interrelated levels. At the bodily level, many expressions recruit actions and perceptual experiences such as reaching, seeing, blinking, throwing, grasping, moving, carrying, or experiencing physical weight. At the cognitive level, these experiences are abstracted into relative categories such as near/far, short/long, little/much, and light/heavy and can subsequently support metaphorical and evaluative extensions. At the cultural level, particular actions, objects, routines, economic units, and material practices become conventional reference points and are preserved through linguistic use. The resulting phraseological meaning is therefore neither exclusively

bodily nor exclusively cultural; it emerges from historically conventionalized relations between physical experience, conceptual categorization, and shared linguistic practice.

This interpretation is consistent with contemporary embodied-cognition research while avoiding an overly strong embodiment claim. [Desai \(2022\)](#) concluded from neuroimaging and lesion evidence that metaphorical understanding can be grounded in sensory-motor systems, but also emphasized that idiomatic language may involve a different and more schematic form of grounding. Likewise, experimental studies suggest that linguistic conventions can modify or even outweigh simple body-based predictions in some conceptual mappings ([Mansoori & Nassiri, 2022](#)). Accordingly, the present linguistic findings should be understood as evidence for embodied and culturally mediated semantic motivation, rather than as direct neuropsychological evidence concerning the online processing of these idioms.

Limitations and Future Directions

Several limitations should be considered when interpreting the findings. First, the study used a purposively constructed dataset derived from dictionaries, scholarly materials, literary and folklore texts, and corpus-related sources. The reported percentages therefore describe the composition of the present analytic corpus and should not be interpreted as population estimates of the frequency of mesurative idioms in Kazakh or English.

Second, balancing the datasets facilitated transparent cross-language comparison but does not establish that the phraseological inventories of the two languages contain equal numbers of mesurative expressions. Future studies should use large, independently sampled corpora and normalize frequencies per million words to examine whether the descriptive differences observed here are also present in natural language use.

Third, phraseological units differ in register and historical status. Some expressions remain productive in contemporary language, whereas others may be literary, traditional, historical, or infrequent. Future corpus-based research should therefore distinguish type frequency from token frequency and examine diachronic as well as contemporary distributions.

Fourth, the embodied and cognitive classifications in this study were inferred from linguistic form, literal

imagery, figurative meaning, and conventional motivation. No behavioral, psycholinguistic, or neurocognitive experiment was conducted. Consequently, the study cannot determine whether bodily or perceptual simulations are activated during real-time comprehension. Experimental studies using reaction-time paradigms, eye tracking, electrophysiological methods, or neuroimaging could test whether mesurative idioms with transparent bodily imagery are processed differently from highly conventionalized or semantically opaque expressions.

Finally, cultural interpretations were necessarily dependent on available linguistic and contextual documentation. Future research could incorporate native-speaker judgments, corpus-based contextual analysis, and expert coding with formal inter-rater reliability to distinguish historically motivated interpretations from associations that remain psychologically salient for contemporary speakers.

Conclusion

The present comparative analysis demonstrates that mesurative idioms constitute a productive linguistic domain for examining the relationship among embodied experience, cognitive representation, and cultural conventionalization. Across Kazakh and English, concrete experiences of duration, distance, size, quantity, weight, value, and age were repeatedly transformed into relative, figurative, and evaluative meanings. The two languages shared broad conceptual oppositions, but frequently differed in the specific bodily actions, perceptual reference points, material objects, and conventionalized practices through which these meanings were expressed.

The findings therefore suggest that the semantic development of mesurative idioms cannot be explained solely by formal systems of measurement or by culture-specific symbolism. Instead, these expressions occupy an intermediate space where measurable physical experience is cognitively reorganized and subsequently stabilized through culturally situated language. Bodily reach, vision, movement, recurrent activity, physical weight, and material interaction provide experiential resources, while linguistic and cultural conventionalization determines how those resources become enduring phraseological meanings.

At the same time, the results do not imply fixed psychological differences between Kazakh- and English-

speaking communities. The observed contrasts concern the organization of the present linguistic corpus and the conventional imagery encoded in the expressions examined. Larger corpus-based and experimental studies are required before broader claims about language use or cognitive processing can be made.

Overall, mesurative phraseology provides a useful interdisciplinary model for understanding how body, mind, and culture intersect in language. By showing how concrete measurement becomes subjective magnitude, evaluative meaning, and culturally recognizable imagery, the study extends comparative phraseological research beyond numerical structure and highlights the role of language in preserving and reorganizing embodied human experience.

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The authors of this article declared no conflict of interest.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

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