



Mapping of the Mind: A Questionnaire-Based Study of Mental Spaces and Identity Construction in Multilingual Speakers

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Abstract

Language and culture continue to evolve under the influence of historical, socio-cultural, and lexical shifts. These dynamics shape human thought and behavior, resulting in similarities and differences within and across cultures. Cross-cultural cognition remains a significant topic, as culture not only informs the content of cognition but also influences its underlying processes. While some experts argue that cultural variation only affects differences at the surface level, others emphasize its ability to restructure fundamental cognitive mechanisms. As a result, cognition is shaped by subjective experiences and prevailing cultural norms, underscoring the complex interplay between universal psychological processes and culture-specific patterns. This paper underscores the importance of cultural and cross-cultural cognition in shaping social behavior and contributes to the discourse on developing a universal framework that integrates cultural diversity with cognitive diversity.

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1. Mental spaces

Mental spaces are embodied as partial assemblies that are mentally erected during our cognition processes and speech, thus promoting our local understanding and action (Fauconnier, 1994). These fluctuating spaces are comprised of frames and cognitive models. Fauconnier argues that mental spaces are linked to long-term schematic knowledge, such as navigating the sidewalk while walking up or down the street, or to long-term specific knowledge, which entails less substantial notions currently, i.e., memories, recollections, and reminiscences.

The long-term schematic knowledge involves you, some vivid event that imprinted itself in your memory, and other scrutinous details (Michaelian, 2024). This mental space can be activated in a variety of ways and for multiple purposes. Any mental space, despite its validity, can be hypothetically amended within one's mind (Kahneman & Miller, 1986; Roese & Olson, 1997). In other words, one may contemplate what could have taken place if he or she had not attended a party or had not gone to that concert, consequently theorizing counterfactual occasions and feasible outcomes. Therefore, any mental space can be distorted into the innumerable arrays of possibilities (Tversky, 2003).

According to the above-presented information, it can be stated that mental spaces are constructed and modified, and ideas within a discourse are unsheathed and entwined with one another by a multitude of mappings. Fauconnier emphasizes the following (Fauconnier, 1994):

- a. Identity mapping;
- b. Analogy mapping.

It is a general peculiarity of mental space configurations that denotes connections by tying the constituent elements across spaces with no implication that these elements share the same distinguishing features or properties. To demonstrate contrastive differences between such ubiquitous spaces, the author of the thesis has come up with two graphic representations, which will shed light on some pervasive and more stringent differences within one mental space, which implies a specific period in time, encompassing memory, assumptions, specific locations, and interrelations within the space, which are subsequently framed.

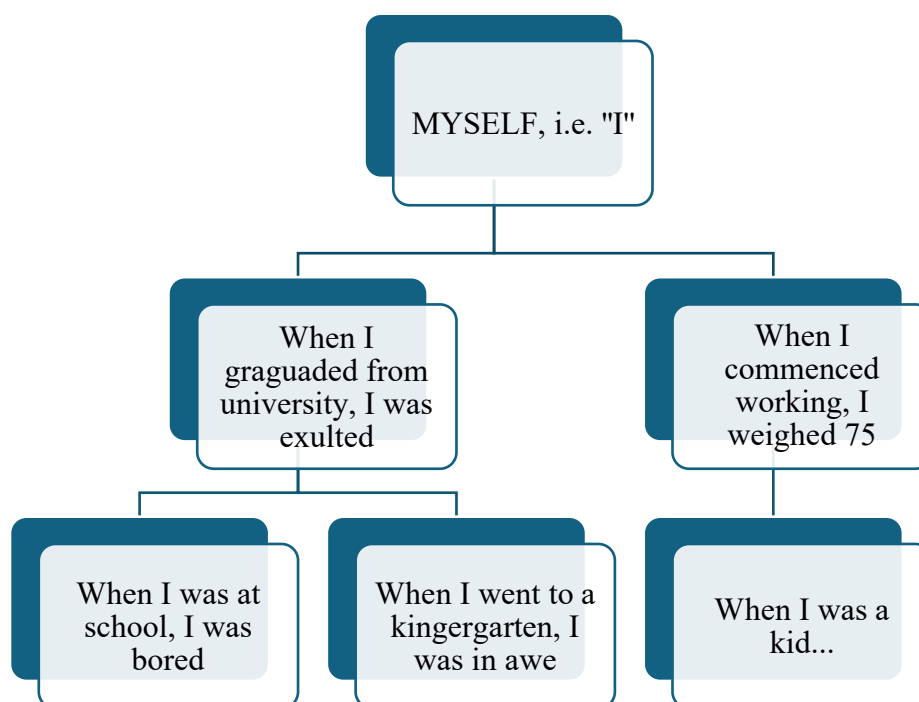


Figure 1. Identity Connection

In accordance with the above-displayed figure, it is feasible to assume that, when a person builds up a sentence, i.e., a cognitive chain of events, emotions, etc., he or she, undeniably, prompts to establish an identity connector between “himself” in the past and a contemporary, augmented version of “himself” at the current time.

Concerning the framing of mental spaces, all constituent elements are to be organized as a package of already known data. When everything in the chain is meticulously aligned and all the elements are inert, it is characterized as a frame (Fauconnier, 1994, 2017). The following figure will demonstrate more location-specific framing, which cannot be altered or distorted due to certain constituent elements. In this scenario, we will consider a long-entrenched habit and its established bounds.

Mental spaces, i.e., mental domains, are constructed out of the array of more vivid and less implicit aspects, i.e., habits, preferences, etc., which are highly dependent on the entourage of the event, that is, as shown in the figure above, subsequently framed (Brandt, 2004; Fauconnier, 2017). In order to thoroughly analyse the framing process, let us consider “my mother purchases”. In this particular frame, there is a set of conceptual domains, i.e., the concepts of eating, drinking, buying, and selling at public places. A secluded mental domain can be built up out of knowledge of several individual domains

(Wiley, 1998). The very concept of someone's mother making a purchase annually can be saturated by adding other frames, thus expanding the scope of the domain. E.g., it is feasible to add other people or public entertainment, taking into consideration a specific time of the year, or adherence to an annual routine. However, there is another approach to enacting mental spaces, e.g., immediate experience or response. In other words, if someone sees my mom purchasing cake at Arthur's, his mental domain is generated this very instant, i.e., someone's mom is purchasing cakes. This particular example of an immediate experience is an involuntary invitation to blend your mental space with another one, being subconsciously inconspicuous, since this specific morning or afternoon is your specific place and time within mutual mental spaces at Arthur's.

While unfolding a full discourse, an embellished array of mental spaces is typically set up with reciprocal connections and abrupt shifts of standpoints of concentration from one space to another. As it has been mentioned before, mental spaces are built up, with the probability of future alterations, in working memory. Nevertheless, a mental space can also become embedded in long-term memory. For example, we are capable of activating mental spaces that are entrenched within. Some inviolable mental spaces may be generated instantly, e.g., the solar system or the Eiffel Tower. Such mental spaces intersect and overlap, evoking the range of possible variations, references, or incarnations when being activated. Fauconnier states that every mental space may have its own scales, image-schemas, crucial relations, or force-dynamic patterns (Fauconnier, 1994).

2. Language and Cognition

It goes without saying that one must discern such notions as language and cognition. At the dawn of what many consider the cognitive revolution, there were divided opinions on the relationships between these notions and their coexistence. In the late 1950s, two distinct ideas on the language and mind were traversing the world (Harris, 2006).

Undoubtedly, it was Noam Chomsky's field of generative linguistics, which, due to a rather inert, underlying philosophy, remained almost unchanged through the years. His core idea was the grasp of language abilities as akin to a mental organ. According to his standpoint, children were born with a language acquisition device and with particular linguistic knowledge (Chomsky, 2006). This knowledge guided the concepts of noun, verb, grammatical subject, and other structures constraining grammatical rules. In other words, Chomsky argues that children must acquire languages without any prior imposed constraints and delve into the process without problem-solving skills, while simultaneously, pave the way by extracting rules, piling them in their own way, and face the problem with their own set of yet rich expectations.

Throughout the decades, there were innumerable revelations and subsequent revolutions within the field of cognition and linguistics (Otero et al., 1991). At the brink of the 21st century, the main touchstone concerned the rapport between language and cognition and whether the grammatical structure or vocabulary of any language impacted the thought process. The preceding years were full of controversies on the question of similarities between language and cognition and human abilities.

The language-cognitive rapports seem to best capture the idea of simultaneous differences and similarities. However, both notions develop over the human's lifespan, based on such aspects as environmental and socio-cultural constraints (Harris, 2006). Contemporary approaches to human cognition, thinking processes, language cognition, perception, and interpretation depict culture as a solid interdisciplinary field for overall understanding of reasoning, which brings us to the conclusion that any theory, be it temporary or commonly endorsed, has been unprecedentedly affected by rapid alterations within the socio-cultural framework, which is relentlessly swaying in unpredictable directions. In this respect, it is of paramount necessity to delve into the very essentials of language and cognition, to encompass the cultural vastness.

3. Cognitive Approach in Discourse Analysis

Cognitive linguistics, unequivocally, is the study of how languages relate to the human mind. The defining notion within this framework is the so-called cognitive commitment, introduced by Lakoff R.T (R. T. Lakoff, 1990). Lakoff states that this is the commitment that systematizes linguistic research with the accumulated knowledge of what is already known about mind and brain, incorporating neighbouring sciences, e.g., psychology and neuroscience, and exploring cognition. Nevertheless, some of the more obsolete endeavours within the field of cognitive linguistics have not contrived to live up to the benchmark of cognitive commitment (Kibrik, 2011). Notwithstanding the fact that the topicality of the issue still remains, the framework of the discourse in 1983 has undergone drastic transformations, deviations, cultural and social transmutations due to its instability and relativity within the contemporary, swiftly changing context. In addition, it must be taken into consideration that scientific boundaries are merely accidental and arbitrary, while on the contrary, the mind itself, which is the object of studies, is undivided.

Overall, the core objective of the language is to foster interactive, communicative transfer of innumerable arrays of information among individuals. However, as stated above, there are some undivided, less perceptive aspects, which are innate, and on the other hand, there is a part of the dynamic discourse that unfolds in real time. The juxtaposition of linguistic resilience is the storage of any language that dwells in the vault and cannot be altered under any circumstances.

Like other natural paradigms, discourse has a specific structure (Diaz-Bone et al., 2008). The structure has two layers, which are as follows:

- a. Micro-local structure;
- b. Macro – global structure;

These structures comprise a hierarchical model, which operates within previously ranging elements. Further interior expansion is a highly sensitive and unstable matter. Linguistic hindrance: Native and non-native English language speakers

The knowledge of any language is considered a privilege, or as it can also be labelled “lexical dignity” in academic and socio-cultural contexts. In order to assess the extent to which the English language has reinforced itself in the global arena, it is required to delve into various fundamentals, which will in their own turn, imply not only socio-cultural, but also historical aspects. The following figure demonstrates what a probable demeanour according to the context might be and how exactly speakers might act and respond to either assuage the conversation or diminish an interlocutor’s worth because of subjective and implicit factors. In these figures, the author deviates from mental spaces and their entailing aspects, but on the other hand, takes a raw look at what the hypothetical impetus for a peculiar demeanour might be.

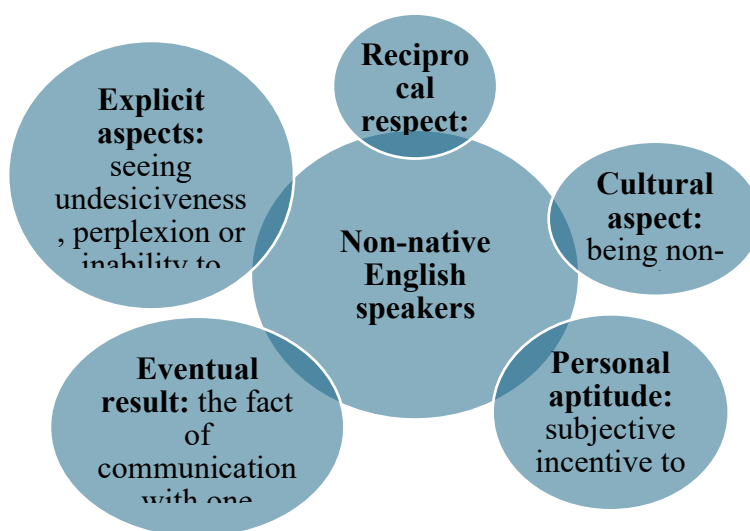


Figure 2. Preliminary effect of lexical dignity in interactions of non-native English speakers)

The figure depicted above may be elaborated further by adding sub-branches of the key elements, which may imply social, cultural, psychological, etc., factors that can affect attitude and the interaction. Nevertheless, no matter what additional constituents are added to the figure, the fact of being non-native speakers soothes the interaction, denoting a peculiar sense of lexical equality, regardless of one's vocabulary, pronunciation, fluency, etc. In the long run, the accumulation of these elements manifests itself in a prolific conversation, which does not undermine one's self-worth and is based on a reciprocal respect.

4. Mapping of the mind: A questionnaire

In order to draw a cognitive framework within a particular social group, the author of the article conducted a questionnaire consisting of 24 questions/statements. To narrow the scope, Latvian and Estonian students, both local and international/exchange, were chosen, their age ranging from 19-25. It must be noted that the questionnaire was conducted in March-April 2025.

The questionnaire was filled out by 162 respondents, who remained anonymous, having presented the data solely for research purposes. The questionnaire was compiled to delineate peculiar mental constructs that were either entrenched within an individual or were acquired subconsciously/purposefully due to certain socio-cultural paradigms. Nevertheless, in this article, the author analyzes a specific set of questions/statements, which is as follows:

1. What is your mother tongue?
2. What other languages do you speak?
3. For how many years have you been using your second language?
4. My identity changes, depending on the language I speak.
5. Does speaking a specific language make you feel closer to a particular culture or set of values?
6. Think of a memory you usually recall in a specific language. Does it change when you retell it in another language?
7. Socio-culturally bound concepts can be misunderstood/misinterpreted depending on the language you use.
8. The language I use impacts the way I organize my thoughts and solve problems.

What is your mother tongue?

162 responses

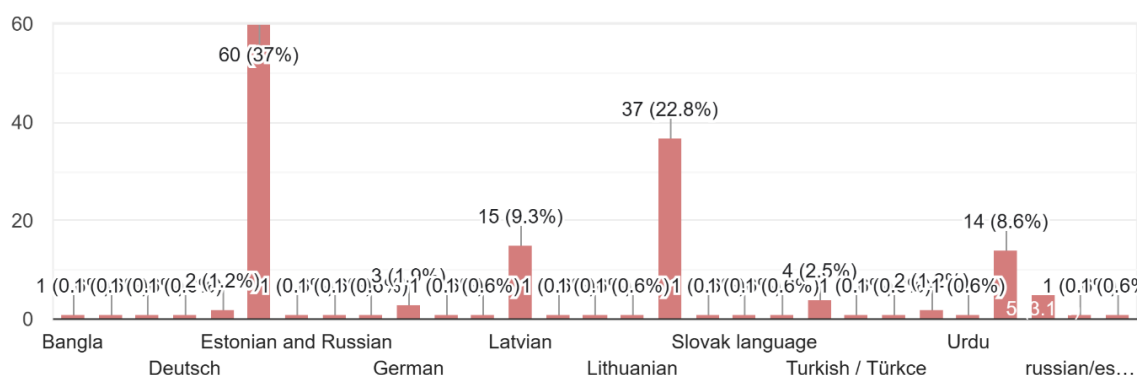


Figure 3. What is your mother tongue?

The distribution of multilingual and consequently multicultural backgrounds within the context of the respondents is an essential prerequisite for investigating mental spaces and identity convergence/divergence. The presence of myriad Slavic and Finno-Ugric languages (e.g., Russian, Estonian, Slovak, Latvian) suggests overlapping cognitive schemata embedded in both Eastern and Northern European cultural paradigms. This linguistic affinity may cultivate cognitive resilience, allowing individuals to navigate various cultural norms and semantic systems. From a Fauconnierian perspective, each mother tongue may serve as a distinct mental space, carrying entrenched socio-cultural frames (Fauconnier, 1994). These spaces are likely to interact dynamically with additional language systems acquired later, generating blended or competing identities.

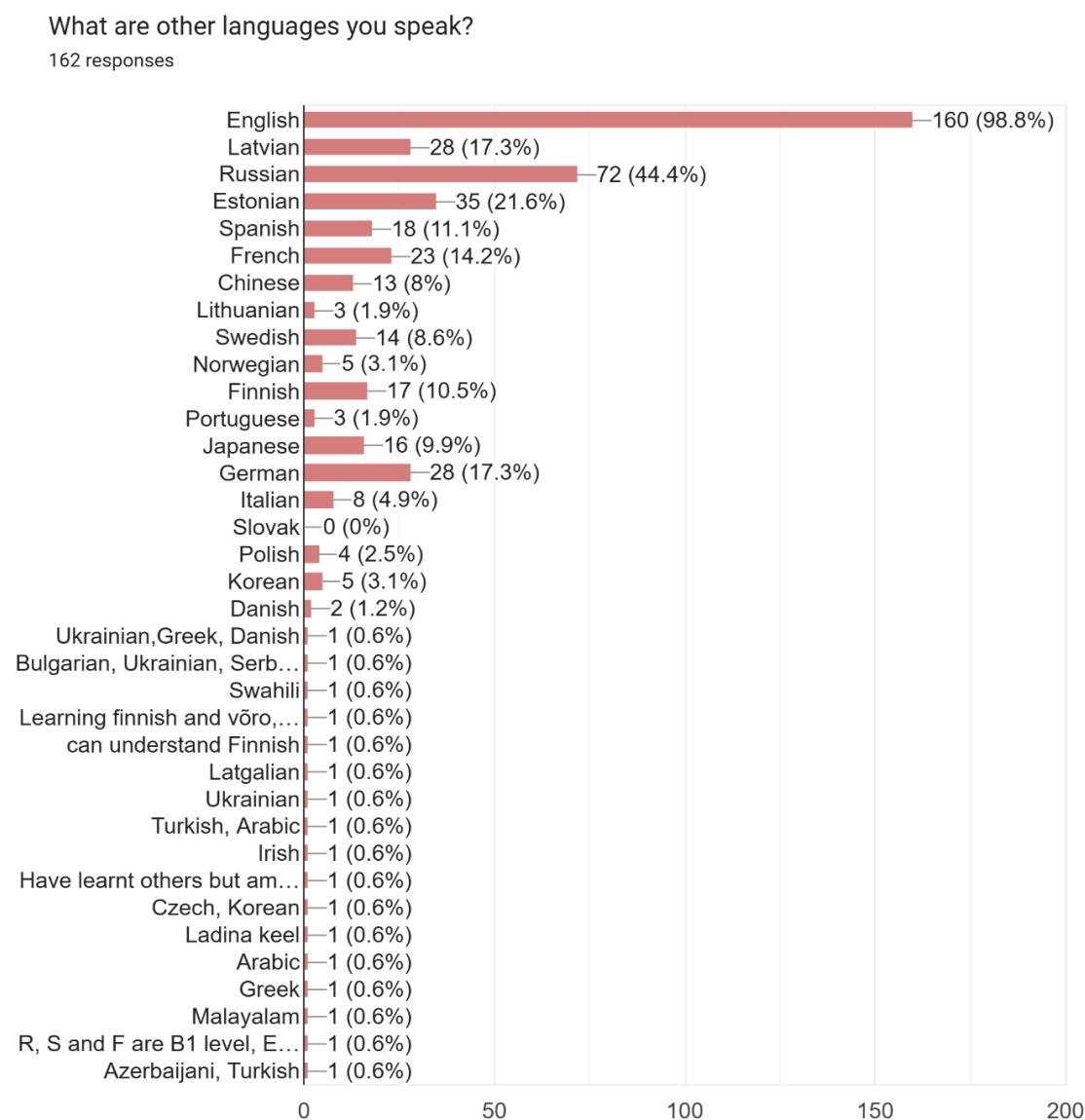


Figure 4. What other languages do you speak?

This multilingual diversity establishes a sufficient landscape for mental space complexity. According to Lakoff's cognitive commitment, the speaker's linguistic repertoire doesn't exist in isolation but interacts with frames, schemas, and mappings that are socio-culturally bound (R. T. Lakoff, 1990). In multilingual cognition, each additional language not only provides access to additional lexical resources

but also encompasses cultural scripts, as languages carry with them specific social roles, taboos, and cognitive routines.

This alleviates the explanation why the majority of participants in Figure 6 (*My identity changes, depending on the language I speak*) feel that both language and identity shifts are interconnected, enacting cultural/cognitive mappings, some of which may be contradictory, overlapping, or complementary. This may also be a real-world echo of the *weak version* of cultural cognition, where content varies, but cognitive processes remain universally applicable. The stronger version, on the other hand, suggests cognitive restructuring by culture, which cannot be excluded from the list.

For how many years have you been using your second language?

162 responses

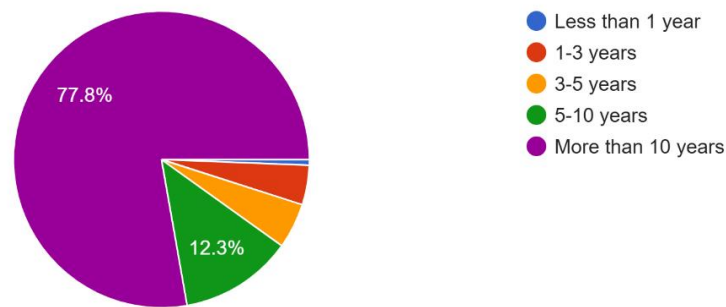


Figure 5. For how many years have you been using your second language?

The respondents' solid degree of linguistic experience (prevailing over a decade) denotes a subtle acquisition of versatile cognitive and cultural models. This aligns with the concept that mental spaces evolve with time and repeated usage, especially when those languages are used in identity-forming environments such as education, social, and professional lives, etc. Such long-term exposure solidifies more autonomous mapping between languages and thought patterns. This, in its turn, reinforces the hypothesis that second languages do not act as mere communication facilitators but actively reconstruct one's cognitive architecture and impact identity expressions depending on the language used within context.

My identity changes, depending on the language I speak.

162 responses

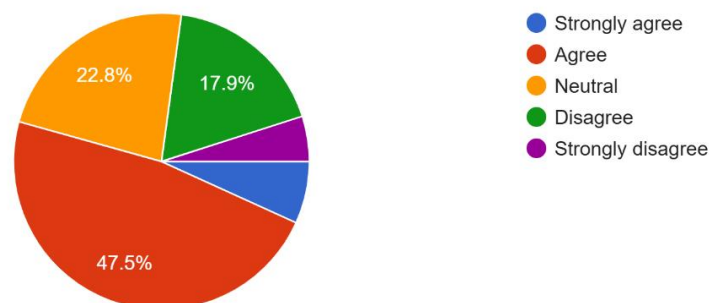


Figure 6. My identity changes, depending on the language I speak

The notion of identity fluctuation across languages is validated in Fauconnier's mental space theory (Fauconnier, 1994). Each language in use erects an array of mental spaces that can be solitary and framed, but can also be convergent and adaptable depending on the socio-cultural, implicit, and explicit shifts. These mental spaces are not merely linguistic containers but identity-bearing frameworks. What respondents report here is an embodiment of identity mapping. As they shift between languages, individuals map multiple versions of "self" onto culturally specific roles, utterances, etc. Moreover, this identity modulation echoes in contemporary theories in sociolinguistics and psychological linguistics, which argue that language use is performative and context-sensitive, denoting how individuals perceive themselves and are perceived by others (Blackledge & Pavlenko, 2001; Gumperz, 1982).

Does speaking a specific language make you feel closer to a particular culture or set of values?

162 responses

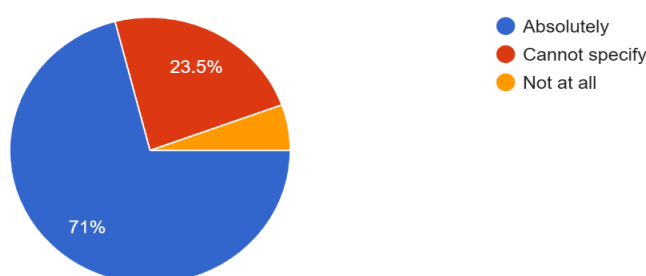


Figure 7. Does speaking a specific language make you feel closer to a particular culture or set of values?

The prevailing majority (71%) of respondents confirms a vivid correlation between linguistic practice and sociocultural affiliation. This consolidates the hypothesis that language is not a neutral entity but rather a medium through which cultural values and cognitive frameworks are embodied. The findings reflect Fauconnier's concept of convergent mental spaces, where linguistic input triggers culturally entrenched frames and schemas, which in turn impact perception and self-placement within a cultural context (Fauconnier, 1994).

The 23.5% who "cannot specify" may point to the implicit and often inconspicuous nature of cultural cognition, which makes reflection more intricate. Meanwhile, the minority (5.5%) affirming no connection at all implies cases where language use has been stringently instrumental, i.e., acquired without immersive or affective cultural engagement. This distribution substantiates the notion of cognitive convergence, underlying partial identity alignment with social norms embedded in the language spoken.

Think of a memory you usually recall in a specific language. Does it change when you retell it in another language?

162 responses

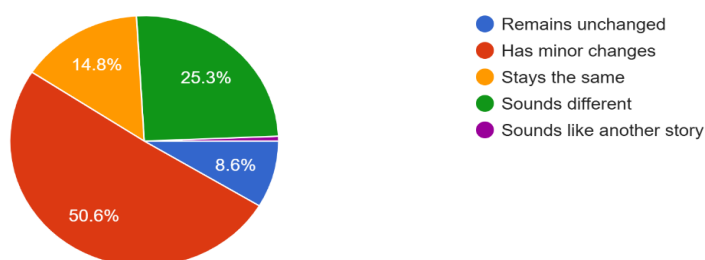


Figure 8. Think of a memory you usually recall in a specific language. Does it change when you retell it in another language?

It can be extrapolated from the above-depicted findings that a specific language functions not only as a conduit of recollections but as a cognitive filter, substantially altering the structure of an individual's memory. This underpins contemporary understandings of memory as reconstructive rather than reproductive. The retelling of a memory in another language may trigger new mental frames, re-anchoring the event within a divergent cognitive and emotional scope.

The 25.3% who experience no shifts and the 8.6% who claim the memory remains unchanged may represent individuals with more stable core schemas or limited emotional/semantic proximity between languages. These results embody the non-neutrality of linguistic encoding, as posited in Catherine L Harris (Harris, 2006), where language shapes not only memories but the cognitive shape and feeling of recollected experience.

Socio-culturally bound concept can be misunderstood/misinterpreted depending on the language you use.
162 responses

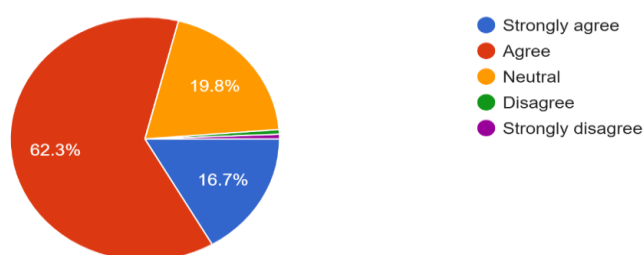


Figure 9. Socio-culturally bound concept can be misunderstood/misinterpreted depending on the language you use

The data reveals a predominant range (nearly 80%), claiming that socio-culturally rooted concepts are prone to misinterpretation across languages. This advocates the view that language is not a neutral medium but an active constructor of meaning, shaped by culturally specific cognitive frames (G. Lakoff & Johnson, 1980; R. T. Lakoff, 1990). The neutral responses (19.8%) may depict either a lack of awareness of such deviations or enhanced cross-cultural fluency. The minimal disagreement further solidifies the theoretical premise of the article: language implies not sole interaction, but perception, interpretation, and cultural cognition.

The language I use in specific social settings impacts the way I behave.
162 responses

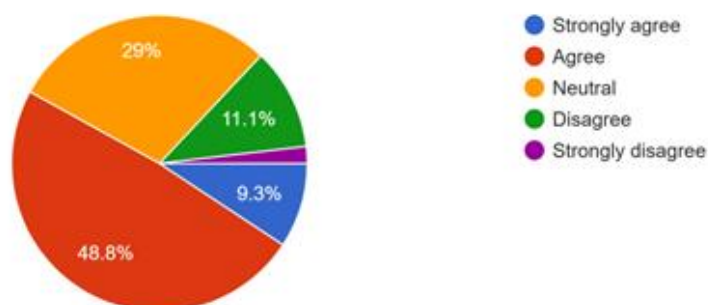


Figure 10. The language I use impacts the way I organize my thoughts and solve problems

This chart supports the notion that language and demeanour are interconnected, particularly in socially allocated cognition. The fact that over half of the respondents affirm demeanour shifts depending on the language used aligns with the idea of context-framed mental spaces, evoking an array of experiences, emotions, interpretations, etc, demonstrating identity blending mental schemas based on linguistic context, advocating for the Sapir-Whorf hypothesis.

5. Conclusion

Overall, it can be argued that, based on the questions provided, the versatility of languages an individual knows and speaks underlie the shapeshifting cognitive processes. It impacts the interpretation and perception of transpiring events, utterances, and experiences. Any language acquired is an indispensable cognitive tool that, even if subconsciously, contributes to the convergence of mental spaces by blending newly integrated and previously embedded frameworks. The given article may serve as a premise to a more thorough, target-oriented analysis of cognitive processes in perception, interpretation, and decision-making of an individual (within an allocated socio-cultural environment), covering such spheres as Cognitive Linguistics, Psycholinguistics, and Social and Cultural Studies.

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