



THE RELATIONSHIP BETWEEN CULTURE AND COGNITION

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Abstract:

Contemporary society is swarming with constantly altering paradigms and emerging trends, which are fluctuating within the array of punctilious socio-cultural relationships. It goes without saying that the global shift of events, which entails such notions as national disruption, cultural discrepancies and numerous misinterpretations of implications, leads to local and global havoc within the scope of multilingual and multicultural interactions. Nevertheless, regardless of the swiftly changing pace of ideas and commonly perceived concepts, there is a notion, which remains unaltered, i.e., an individual's socio-cultural background. The latter entails the whole set of factors, ranging from the psychological state of a person, his or her implicit and explicit knowledge and lexical aptitudes. This particular article accumulated a solid set of international respondents, thus delineating the core idea of what exactly moulds us, as units of society, subsequently adapting our perception of utterances, interpretation of interlocutors and the grasp of transpiring events. The author truly believes that the overall accumulation of international responses might serve as a great launching ground and the premise for further multilingual and inter socio-cultural research.

Keywords: cross-cultural interaction, socio-cultural background, lexical aptitude, switching for convenience, lexical complexity

1. Introduction

"*What we are is very much a matter of what culture has made us*", states the philosopher Daniel Dennett (1995).ⁱⁱ Dennett delineates that people are affected in a myriad of ways by the culture in which they are embedded.

Any culture is a meticulous accumulation of innumerable, fundamental implications for human thought and demeanour. Therefore, any behavioural deviation or, vice versa, striking conformity to certain abutments, is in other words, the testimony of culturally acquired role-models, beliefs, values, etc.

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ⁱⁱ Daniel Dennett: *Darwin's Dangerous Idea: Evolution and the Meanings of Life*, 1995

On the contrary, it must be noted that possible incongruities or similarities may either occur cross-culturally or can take place within the same culture. Indeed, it has been widely discussed that anthropologists have dealt predominantly with patterns of differences between cultures while neglecting relevant underlying similarities (Brown, 1991).ⁱⁱⁱ

Subsequently, the dilemma of the cross-cultural variables and their effect on people's demeanour, cognition and interpretation was always a rife topic. However, it is infeasible to neglect the extent of the role that culture plays in human development; one cannot exclude the swiftness or altering distinctions, conformities and obsolete patterns in any culture, which in the long run brings one to the brink of interculturality. Taking contemporary cultural cognition into consideration, it is possible to state that the distinctions between cultures are simultaneously weak and strong.^{iv} The weakness of cross-cultural relationships and cognition concedes that the contents of cognition are frequently variable across different cultures, nevertheless, the processes that underlie these variations are themselves cross-culturally static.

For instance, although language varies in its surface peculiarities in numerous cultures, this variety is underpinned by universal psychological mechanisms that generate further cultural cognition (Chomsky, 1975; Pinker, 1994).^v

In juxtaposition to the weak version of cultural cognition, its adversary, i.e., the strong version, argues that not only the contents of cognition vary across cultures, but so does the core nature of cognitive processes. Within the cross-cultural vista of cognition, culture can be depicted as the drastic changer of basic cognition. Merlin Donald (1991) suggests that "*Cultures restructure the human mind, not only in terms of its specific contents, which are obviously culture-bound, but also in terms of its fundamental neurological organization.*"^{vi}

Consequently, cultural cognition and the following response are highly variable and are intrinsically dependant not only on subjectivity, but also on the omnipresent, societally overwhelming cultural norms that serve as a benchmark of sensitivity and regularities. The latter leads to an acknowledgment that any cognitive process implies: cultural and academic backgrounds, as well as (cross) cultural demeanour model, which in its turn encompasses the array of subjectivity and objectivity, and the expansion of thought in accordance with intellectual integrity and wavering patterns. It means that any cognitive process is a fragile vessel, which may simultaneously emit patterns, thus changing the initial image, or on the other hand, may blend new paradigms, thus establishing cognitive compatibility with previously accepted norms.

As a result of his empirical research, T. Javanovski concluded that, "*...if cultural standards, impressions, and experiences can influence no less than our visual tendencies, then, indeed, we could hardly convincingly deny that those same social characteristics can and do give*

ⁱⁱⁱ Donald E. Brown: Human universals, 1991

^{iv} Jo Thakker and Russil Durrant: Cultural cognitive theory, 2001

^v Noam A. Chomsky: Reflections of Language, 1975 & Pinker, S. The language instinct, 1994

^{vi} Donald M: Origins of the modern mind: Three stages in the evolution of culture and cognition, 1991

rise to context-identifiable ideas, interpretations, worries, phobias and obsessions" (Javanovski, 1995).^{vii}

The issue of reconciliation of these two versions of cultural cognition is still topical nowadays. Should one endorse the idea that cultures have the ability to drastically restructure the fundamental organization of the human mind, or is the impact of the latter on cognition more moderate? Due to its topicality, it is a meticulous work to delineate the paramount importance of cultural and cross-cultural cognition in the moulding of social constraints and possible variables and their correlation. In addition, it poses the issue of the possibility of establishing a universal approach or schema of branches of cultural cognition and their possible deviations or alterations in accordance to the previous, present and potential knowledge and the expansion of thought.

At first glance, it is improbable to firmly claim or clarify the exact role of culture in cognition, the thought-shaping process and cultural diversification. Opposed to the latter, if one accepts the very character of human cognitive development, cultural diversity can be regarded as a natural consequence of an evolved, domain-oriented mind, which is immersed in a saturated cultural surrounding.

In accordance with the above-discussed concept, cultural learning and its perspective are not inert domains, but on the contrary, they are better thought of as impetuous and briskly-oriented domains, which are subjected to constant transmutation and expansion. The synopsis of the adapted standpoint is cohesively summarized in "Consilience: the Unity of Knowledge" by Edward O. Wilson (1998)^{viii}.

"Culture is created by the communal mind, and each mind in turn is the product of the genetically structured human brain. Genes and culture are therefore inseparably linked. But the linkage is flexible, to a degree still mostly unmeasured. The linkage is also tortuous: Genes prescribe epigenetic rules, which are the neural pathways and regularities in cognitive development by which the individual mind assembles itself. The mind grows from birth to death by absorbing parts of the existing culture available to it, with selections guided through the epigenetic rules inherited by the individual brain." (p. 127)

In order to gain an insight into how cultural cognitive models are generated and apprehend the vast scope of cultural diversity, it is crucial to consider the distinction between proper and actual domains. Actual domains were a contemplation of the cognitive anthropologist Dan Sperber (1996).^{ix} He viewed the proper domain of any conceptual model as the holistic accumulation of all the information in the organism's environment that there is to process, whereas the actual domain is all the information that satisfies the model's input conditions.

Although Dan Sperber has prevalingly worked within biological disciplines, the cognitive models of his works might be integrated into the study of cross-cultural cognition and perception. Overall, it can be deduced that the proper domain may entail

^{vii} T. Javanovski: The cultural approach of ethnopsychiatry: A review and critique, 1995

^{viii} Edward O. Wilson: Consilience: the Unity of Knowledge, 1998

^{ix} Dan Sperber: Explaining Culture, 1996

all the imaginable and visceral information that an individual possesses, though he or she has never directly experienced certain scenarios due to their improbability, while the actual domain moulds our behavioural patterns in terms of intentional states, e. g., volition, beliefs, etc. Subsequently, one might find him/herself at the intersection of the invariant cognitive operations and, simultaneously, highly dependable contents, which may be altered basing on specific local details.

In this regard, cultural cognition, therefore, can be considered an offspring of an active process of domain specific-oriented learning across fluctuating cultural contexts. Although, innate cognitive models and cognitive structures guide us towards meticulously sorted pieces of information within the given environment, culture has a drastically substantial influence on the subsequent, finite shape of the individual's knowledge, experience and expertise. As Howard Gardner (1983) has argued, modules fall into lengthy developmental constructions and therefore are open to a potentially robust impact from social and cultural factors.[×]

Even though the author of the thesis has briefly touched the topic of cultural cognitive models, it can be deduced that the very assessment of cognitive processes is extremely unstable and is constantly undermined by an array of social, cultural and psychological variables, which in their turn, may dramatically alter the final form of thought and eventual response or reaction.

In this regard, the author has come up with a preliminary portrayal of potential factors that may influence the process of cognition within the framework of cultural-cognitive modelling.

Figure 1: A preliminary portrayal of potentially influential factors of cognition



[×] Howard Gardner: *Frames of Mind: The Theory of Multiple Intelligences*, 1983

Taking the above-presented information into consideration, it is possible to assume that there are multiple constituent elements in any culture, which may “correlate” or “fit together” in a coherent way, which subsequently, leads to a probability of either radical alterations in cognition within a specific topic, environment or concept or, on the contrary, may transmute into a more “harmonious” outcome.

Internal relations of equilibrium between elements of culture are of paramount interest and necessity in humanistic, and particularly the so-called “hermeneutic” studies of culture, entailing a multitude of disciplines. For example, (Clark S. 1999; Tilley C. 2000^{xi}).^{xii}

The cognition process involving culture depends on the interpretive rapports between the elements of a particular language or other cultural constitutes, rather than mere relationships and attitudes. There are researchers who believe that culture can be inspected scientifically, but there are still aspects that are outside their reach and must involve other cultural methods or modelling (Fracchia J, Lewontin RC, 1999).^{xiii}

Nevertheless, the above-mentioned approaches cannot be applied universally as the perception, which eventually leads to cognition and interpretation, cannot solely depend on one culture, which is literally inconceivable, taking into account the multitude of cross-cultural blends. The latter may result in distortion or misinterpretation of any posed question. Contemporary cultural boundaries are so vague that it is excessively hard to denote the range of cognition.

Cultural cognition is a simultaneously intricate process due to its size, i.e., symbolic, metaphorical and socially-imposed meanings that swarm and expand one’s thought and, juxtaposed to the thought, it is a straightforward process, which may not entail irregularities, e.g., conservatism. It must be noted that, before conducting any analysis or research on the topic, the cluster of data, implying multicultural, intracultural characteristics and their complexities must be preliminary collected. Only in this case, it is probable to deduce responses according to a specific list of questions, situations or opinions.

Culture is undeniably the umbrella term for the array of intertwined aspects, which are manifested as networks of ideas that are distributed among members of society and require a rigorous approach towards modelling, interpretation and processing (Sieck, W. R., Rasmussen, L. J., & Smart, P. R., 2010).^{xiv} In order to delve into the topic, it must be born in mind that cognitive cultural modelling implies many disciplines, encompassing responses, reasoning and thoughts. The final result involves such fields as: cognitive anthropology, cultural and cognitive psychology and naturalistic decision-making, which brings one to a vista of interdisciplinarity, cognitive approach, and cultural modelling.

^{xi} Tilley C: *Metaphor and Material Culture*, 2000

^{xii} Clark S *Thinking with Demons: The Idea of Witchcraft in Early Modern Europe*, 1999

^{xiii} Fracchia J, Lewontin RC: *Does culture evolve?*, 1999

^{xiv} Sieck, W. R., Rasmussen, L. J., & Smart, P. R.: *Cultural Network Analysis: A Cognitive Approach to Cultural Modeling*, 2010

An inherent challenge in comprehending demeanour in other cultures implies the gathering, analysing and, consequently, manifesting relevant cultural concepts, stereotypes, beliefs, standpoints and values that serve as the impetus for the decision-making process and its further embodiment. Any person, as a whole, is comprised of innate values that were taught from his or her birth. With the course of time, these values may be either distorted or consolidated. Afterwards, the person shapes his or her own surroundings, by adding more layers, e.g., perception, critical thinking, interpretation and cognition, thus creating a list of preliminary assumptions and universal variables.

The above cognitively-oriented fields have been rigorously challenged by the separation of the study of culture and the study of the mind. The latter gave birth to such interdisciplinary fields as culture and cognition (Hirschfeld, L. A., & Gelman, S. A., 1994).^{xv} This cognitive revolution stirred collaborative thinking in terms of interdisciplinary approaches towards cognitive cultural modelling, cultural mapping and cognitive psychology (Nisbett, R. E., 2003).^{xvi} In this regard, there is a necessity to view cultures as the distributors of knowledge and delve into such aspects as cultural mapping and cognitive architecture that embody the pillars of cognition and its manifestation.

Within the framework of cultural anthropology, culture is defined as implying shared knowledge. One of the narrowly-targeted approaches towards the study of cultural cognition was adopted by Sperber in *Explaining Culture* (1996). He depicted culture in terms of “epidemiology”, which, in order to establish disambiguation, involved distributions of a property within a population, i.e., conceptual, cultural, cognitive, etc. In this respect, epidemiology perceives culture in terms of the commonly spread ideas, entailing nations, society, social groups, etc.

The launching ground for this concept lies within the initial recognition that individual minds contain boundless amounts of mental content. People use the word *idea* to attribute and encompass absolutely any content of the mind, involving conceptions of how things are or should be. These networks of fluctuating ideas are frequently referred to as folk theories or mental models^{xvii} (Dedre Gentner, Albert L. Stevens, 1983). Such models comprise individual’s explanations of how things operate and take place, eventually resulting in judgements and decisions that impact an individual’s demeanour. Furthermore, the peculiar nature of an individual’s mental models depends predominantly on his or her cultural and social backgrounds (Hirschfeld & Gelman, 1994). Emphasizing the “ideas” is directly tied to works in the cognitive field and naturalistic decision-making, which, in turn, has always enticed mental models and their fundamental influence on real-world decision-making processes. A more meticulous observation of the cognitive field clearly identifies the contents of cognition juxtaposing the cognitive processes. As it is self-explicatory, mental models reside within people’s heads. Therefore, every time an interaction takes place, people shape their environment, their mental models and their demeanour, leaving observable and constantly

^{xv} Hirschfeld, L. A., & Gelman, S. A.: Mapping the mind: Domain specificity in cognition and culture, 1994

^{xvi} Nisbett, R. E.: The geography of thought: How Asians and Westerners think differently ... and why, 2003

^{xvii} Dedre Gentner, Albert L. Stevens: Mental Models, 1983

indistinguishable, “tangible” traces of mental artefacts, which are located on a subconscious level and, on the contrary, less visible and ephemeral manifestations, such as speech and non-verbal gestures (Sperber, 1996). Upon getting in contact with the interlocutor’s external traces, we generate associative concepts, thus producing mental models that bear certain resemblances within a specific context. These mental models may be persistently entrenched in a population, becoming “cultural”, implying a wide range of applicability by other members of society across space and time. Cultural cognitive models depict these shared networks of ideas.

In order to delineate cultural deviations or congruities, a questionnaire, the responses to which ranged from strongly disagreeing to strongly agreeing, consisting of linguistically and socio-culturally-oriented questions, was compiled. The questionnaire comprised 33 self-reporting questions that were asked in order to shed light on whether cultural and social discrepancies and prejudices are the restraining factors of socio-cultural interaction.

The questionnaire was elaborated with the aim of making respondents reconsider their preliminary rooted perception of certain socio-cultural attitudes, providing them with a solid, structuralized set of (cognitively) triggering questions.

Subsequently, it was required to gather as many international and multicultural respondents as possible. Overall, according to the data collected, which resulted in 260 responses, it can be concluded that the questionnaire was filled by respondents from all over the world.

Taking into consideration that the article prevailingly elicits socio-cultural aspects and traits of an individual, as well as delineates probable deviations of utterances and the interpretation of speakers, the number of analysed questions/statements has been shrunk to six. The list of analysed questions/statements is as follows:

- Were you raised within the same cultural environment, which is around you right now?
- Because of my native culture, I have a list of stereotypes and prejudices about other nations and/or cultures.
- My perception of culture may change due to a new environment, personal experience and global events.
- Social background is the key feature/trait of a person’s character, behaviour, use of language, etc.
- A person’s social background determines their future life.
- The complexity of a language you use depends on the social/cultural background of another speaker.

Taking into account the fact that the questions/statements were answered globally, encompassing the array of inter-cultural and multilingual respondents, it can be extrapolated that the validity of responses within the scope of the article, is justified.

The multifaceted network of respondents may shed light on whether the speakers of various and multiple languages, being from drastically different or adjacent cultures, share common implications, assumptions and opinions on the topic of socio-cultural interconnection or not.

In addition, it must also be noted that regardless of the fact that the predominant number of answers were split into common agreement or disagreement, there are some incongruities in certain statements, which are worth paying attention to.

Furthermore, it must be born in mind that the questionnaire was anonymous, thus all the data collected are and will be unequivocally used for research purposes only. The fact of anonymity of data collection is a pivotal aspect of the validity of responses given. Nevertheless, since the questionnaire is viewed as a self-reporting entity, it is improbable to foresee possible negligence on a respondent's part, i.e., haste, mood, indecisiveness, etc.

In order to grasp every chart presented below, it is required to understand that the range of multilingual and multicultural respondents is truly vast. In addition, apart from an individual's mother tongue, there was no one who identified him or herself as a bilingual speaker. The prevailing majority of the respondents are multilingual.

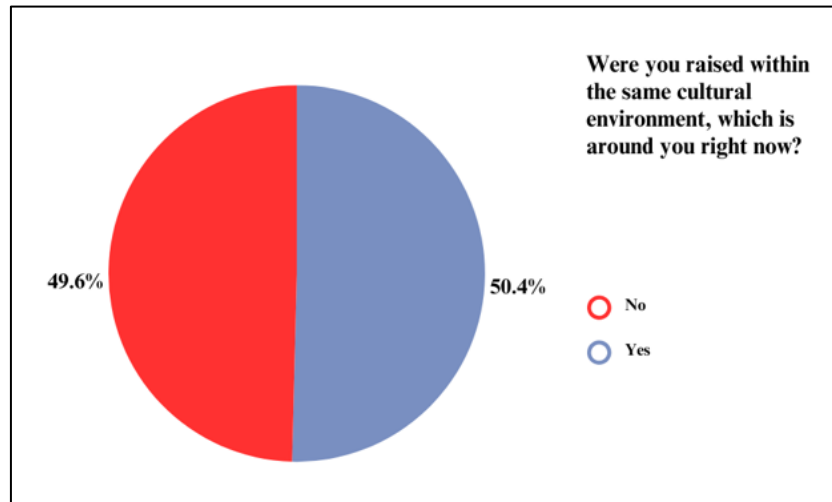
Furthermore, it seems essential to present the list of respondents, i.e., their countries, as it might shed some light on cross-cultural relationships and subjective/objective opinions, depending on the number of respondents from the same country or region. It goes without saying that it is improbable to have a holistic judgement of the overall picture, basing one's analysis solely on the collected data. Nevertheless, it is still possible to draw a preliminary picture of a certain part of the world, e.g., Scandinavia, Baltics, Western and Eastern civilizations.

1.1 The list of the countries of the respondents

England, Ireland, Australia, America, Scotland, Spain, Portugal, France, Latvia, Estonia, Germany, Japan, Russia, China, Sweden, Slovakia, Lithuania, Holland, Poland, Hungary, Indonesia, Italy, Bulgaria, Ukraine, Denmark, Vietnam, India, Greece, Israel, Croatia, Norway, Czech Republic, Iceland, Pakistan, Finland, Switzerland, Thailand, Brazil, Azerbaijan, Turkey.

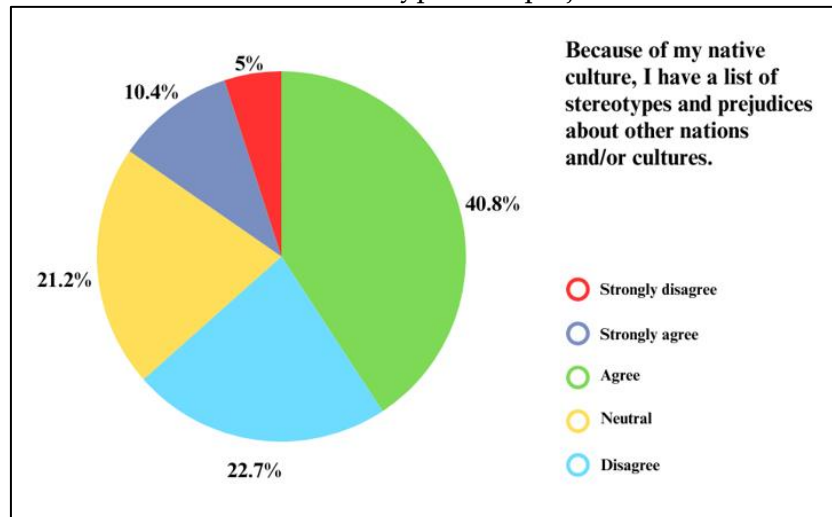
The following pie charts will delineate the information, which will be described and analysed taking multiple socio-cultural aspects into consideration. It is also worth noting that the below-presented charts manifest just a part of the questionnaire, focusing primarily on the current topic of interest.

Chart 1: Cultural environment



One of the most substantial aspects to be taken into consideration before starting an in-depth analysis, is the amount of data, which were collected from the respondents all over the world. In this regard, at this preliminary stage, it is probable to predict the ranging scope of the following responses. In addition, the fact that the respondents have various socio-cultural backgrounds, which might have been altered due to certain events, experiences, etc., implies various subjective factors.

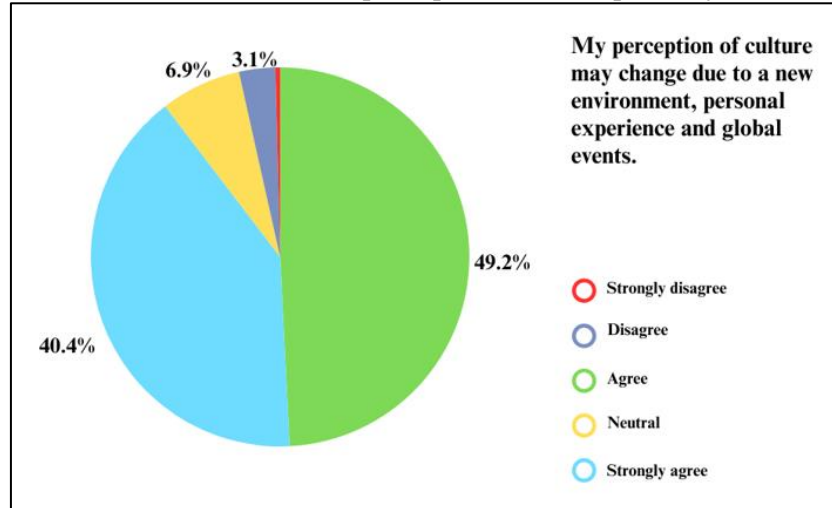
Chart 2: Stereotypes and prejudices



This particular chart illustrates the fact that an individual's innate traits, his or her upbringing and the surrounding tend to mould the set of preliminary entrenched attitudes, means of interpretation and prejudices, which undeniably impact his or her language processing, decision making, i.e., priorities and validity of an argument, and his or her demeanour in accordance with a specific event or environment. The international scope of the collected data implies that, regardless of an individual's prior or current location, the number of languages he or she knows and uses, an individual inevitably finds him or herself at the brink of socio-cultural innateness, i.e., the adherence

to certain traditions, the paramount importance of long-term memory, conforming to a subconscious social paradigm judgement and hitherto established benchmarks within one's family or social circle.

Chart 3: Cultural perception and adaptability

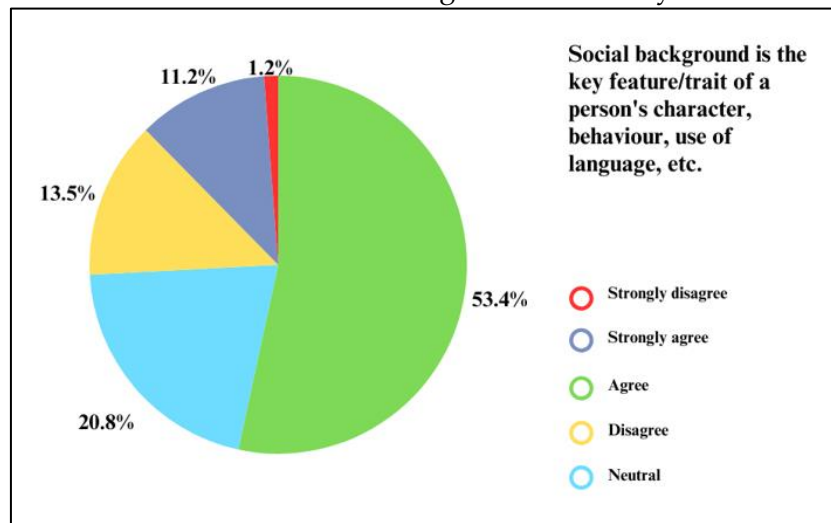


This chart unveils a high probability of instability of one's perception and interpretation of certain cultures. As it can be deduced from the chart, despite an individual's innate and entrenched traits, demeanour, role-modelling, etc., the paramount effect a new environment can imprint is merely irrevocable. Nevertheless, such an approach to cultural perception cannot be labelled as "impeccable" or "stable", since it is not possible to predict the turn of global events.

On the other hand, the responses serve as an example that there are factors that do impact social and cultural demeanour and the interpretation of micro and macro layers of society or the nation as a whole.

What is more, one's subjectivity must be taken into consideration when analysing an individual's utterances, implications, implicatures or his or her attitude towards certain socio-cultural paradigms. Otherwise, if the subjective aspects are not assessed properly, it may lead to misunderstandings and vague perceptions and grasp of the event.

Chart 4: Social background as the key

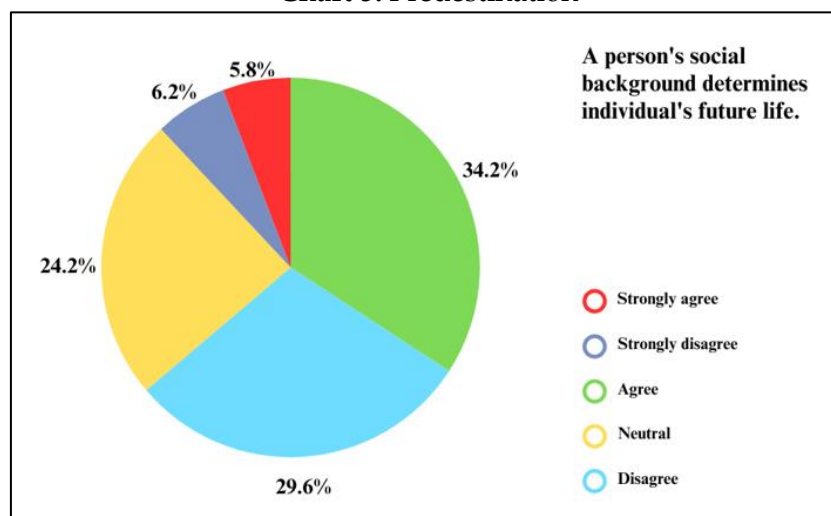


The percentage of responses displays that regardless of an individual's socio-cultural experiences, deviation or adaptation from/to established regulations or his or her subjective events, social background holds a solid ground as a moulding feature of one's personality.

In other words, despite the most drastic socio-cultural alterations, the prevailing majority (taking into consideration the respondents' age and thus their accumulated experience) deems that the core features, e.g., upbringing, rooted memories, early role-models, etc., remain unalterable.

It leads to the conclusion that the surrounding environment, i.e., social groups or society in general, affect a person's cognition both subconsciously and consciously. Presumably, such rooted traits cannot be fully exterminated or distorted, in spite of the surrounding factors. It can be assumed that the desire to avoid the impact of one's social background is partly unattainable, because of subconscious socio-cultural traits that are imprinted within a person.

Chart 5: Predestination

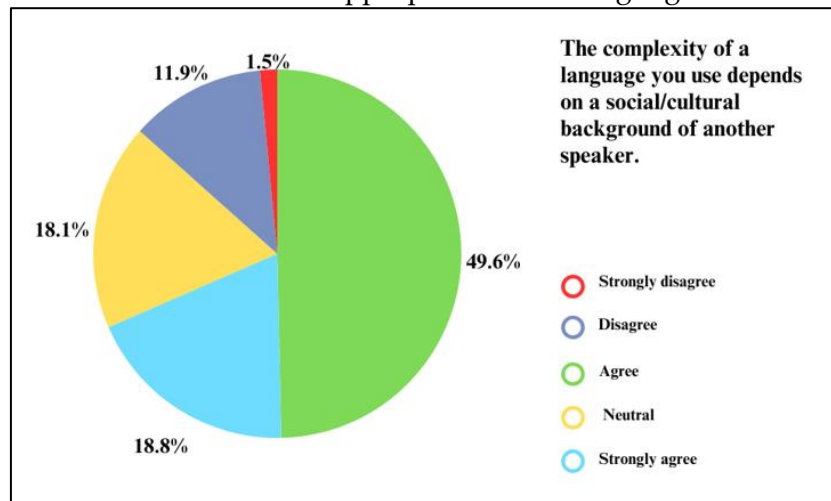


Compared to previous charts, this chart displays a slight difference of opinions. Nevertheless, in this particular interstice, it is probable to hypothesize that the respondents were prevailingly subjective. However, it is incorrect to exclude other people's experiences as an opinion-shaping aspect.

In addition, the fact that social segmentation varies in accordance to a country cannot be neglected, since being born or residing in a particular country implies the whole set of preliminary established (both by government and society) regulations that must be abode. Apart from that, the fact that a person is highly dependent on both internal and external factors cannot be entirely excluded. For example, an individual's actions can get under the impact of his or her indecisiveness, sensitivity, etc.

The psychological aspect is substantial, too. Such divergence in comparison to previous responses, underlies the fact that people are in a (sub)conscious socio-cultural conflict of their own aspirations and socially imposed boundaries.

Chart 6: The appropriate use of language



The last chart delineates the use of language and its complexity according to an interlocutor's lexical aptitudes, since there is a high probability of misinterpretation, misunderstanding, lack of coherence, etc., due to insufficient capabilities of one or numerous speakers (implying that everything depends on a language in which a conversation is being led).

In contrast to other sections, the number of responses stating "disagree" is rather low, which holistically denotes that the majority of multilingual speakers adapt to other interlocutors in order to ease or boost the communication or language acquisition process, which may also imply language switching for convenience.

Nevertheless, in terms of language complexity, multiple implicit, explicit and subjective factors must be taken into account. E.g., a person may be in a hurry, thus switching for one's convenience is uncomfortable. On the other hand, there is a probability that one's volition to enhance his or her skills, or an impetus to test one's lexical aptitudes may prevail, which can subsequently turn switching for convenience into a reciprocally beneficial interaction. Overall, it can be concluded that speakers will

probably adapt to another person's lexical capacity in order to minimize hypothetical misinterpretation.

To sum up, it can be claimed that regardless of the fact how multifaceted an individual is, it is merely inevitable that a person is most likely to adhere, even on a subconscious level, to certain rooted and entrenched traits, i.e., demeanour, adherence to specific norms, judgement, etc., while being in a more divergent and contrasting socio-cultural environment.

According to the conducted questionnaire, it is also probable to deduce that the majority of multilingual respondents, their ages ranging from 17 to 66, having a preliminary set of both subjective and explicit experience, accept the fact that their initially established and delineated customs, traditions, regulations, etc., are still the shaping factors of their daily lives.

The latter leads to the fact that notwithstanding one's socio-cultural background, an individual still has either vivid and rigid or vague and dormant set of prejudices and unamendable attitudes towards some cultures or cultural traits, which cannot and most probably will not be eradicated. However, the majority of respondents adhered to the fact that their ill-judged interpretations may vary and morph into radically (in)compatible ones, depending on certain transpiring local or global events.

Lastly, it can be concluded that the prevailing majority of respondents admit that the probability of a lexical switch in terms of complexity would occur depending on interlocutor's capabilities. Supplementary to that, it also implies that regardless of the multilingual environment, the respondents prefer to switch to another level of complexity in order to ease the process of communication, thus encouraging other participants to continue interaction and pursue certain topics.

The collected data can be used within the framework of the author's PhD thesis *Cognitive Discourse: Cultural Cognitive Models in the Use of Language* as an additional element in conducting the research. The capacity of data may prove its applicability and validity as a substantial statistical outline. In addition, taking into consideration that only 6 out of 33 questions were highlighted in this article, there is still a great socio-cultural scope that can be analysed.

Conflict of Interest Statement

The author declares no conflicts of interest.

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