



**Where metaphors *really* come from: Social factors as contextual influence in metaphorical conceptualizations of life**

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### Abstract

According to cognitive linguistics, any particular target domain can be conceptualized by a variety of source domains. Kövecses has claimed that when it comes to making sense of life, cultural history plays a pivotal role: the hardships that Hungarians endured throughout their 1,100-year-long history have prompted them to conceptualize life primarily as a battle and burden, resulting in a more negative mindset toward life, as opposed to American English speakers, who use more positive source domains. We investigated the validity of this claim via a representative survey of 2,594 Hungarian teenagers; the results are reported in the paper. First, there is an observable shift toward positive conceptualizations of life, which are more reflective of American English preferences of metaphorical usage; we accounted for this shift by the growing influence of American culture. However, this influence is counterbalanced by social factors, in particular type of school and socio-economic status. Second, we have also found that social factors play a significant role in speakers' inclination toward metaphorical usage – inclination and/or ability to verbalize metaphorical conceptualizations is not equally all-pervasive throughout the whole linguistic community, but is curtailed by a) type of school and academic achievement; b) socio-economic status; and c) reading habits.

**Keywords:** life, Hungarian, conceptual metaphor, social factors, contextual influence

### 1 Introduction

Life – besides love, death, fear and desire – is possibly one of the greatest enigmas of human existence. We all grapple with understanding the “meaning” of life – i.e., with the task of finding a suitable narrative with which our actions and the events that we experience can be interpreted and accounted for. Literature offers a vast array of such narratives: the Greek poet Constantine Cavafy, in his poem “Ithaka”, compared life to the long journey of Odysseus to his home, the island of Ithaka:

As you set out for Ithaka  
hope the voyage is a long one,  
full of adventure, full of discovery.  
Laistrygonians and Cyclops,  
angry Poseidon – don't be afraid of them:  
you'll never find things like that on your way  
as long as you keep your thoughts raised high,  
as long as a rare excitement  
stirs your spirit and your body.<sup>1</sup>

The poem depicts life as a purposeful journey, in which the traveler – Odysseus – tries to reach his destination, Ithaka. The adventures that Odysseus has along the journey are the adventures that we experience in life, and which make life interesting and exciting. The end of the journey – Ithaka – is death. Cavafy's understanding of life, therefore, is based on a very specific narrative – that of the journey of Odysseus. However, the understanding of life as a journey is by no means particular to Cavafy – or even literature for that matter. It is a very

<sup>1</sup> Translated from the Greek original by Edmund Keeley and Phillip Sherrard. Source: <http://www.cavafy.com/poems/content.asp?cat=1&id=74> (accessed: 10 June 2016).

common, possibly ubiquitous metaphor that is pervasive in everyday language and thought (Lakoff and Johnson 1980). As laid out by Lakoff and Johnson (1980) in what has become known as Conceptual Metaphor Theory (CMT), abstract concepts, such as life, can only be understood or made sense of by relying on more concrete concepts, resulting in conceptual metaphors – such as LIFE IS A JOURNEY<sup>2</sup> – that serve as the “principal vehicles for understanding” (Lakoff and Johnson 1997: 133).<sup>3</sup> These conceptual metaphors are manifested in language, in linguistic metaphorical expressions; the conceptual metaphor LIFE IS A JOURNEY is made evident in everyday expressions such as “as life taking *an unexpected direction*”, “knowing where one’s *going* in life”, doing things in a *roundabout way*”, “be at a *crossroads*”, etc. The reason why Cavafy’s poem makes sense to us and resonates with our own experiences is because LIFE IS A JOURNEY is a basic and conventionalized metaphor<sup>4</sup> (which is then elaborated on in an original and creative manner by Cavafy).<sup>5</sup>

Yet life as a journey is but one possible conceptualization for understanding life. Lakoff and Turner (1989) note that there are a number of basic metaphors for understanding life (and conversely death), which all focus on different aspects, thus resulting in different inferences. These basic conceptualizations of life are the following (based on Lakoff and Turner 1989 and Kövecses 2002):

A LIFETIME IS A DAY  
 A LIFETIME IS A YEAR  
 LIFE IS A BUILDING  
 LIFE IS A BURDEN  
 LIFE IS A GAMBLING GAME  
 LIFE IS A JOURNEY  
 LIFE IS A PLAY  
 LIFE IS A PRECIOUS POSSESSION  
 LIFE IS A SPORTING GAME  
 LIFE IS A STORY  
 LIFE IS BONDAGE  
 LIFE IS FIRE  
 LIFE IS LIGHT  
 PEOPLE ARE PLANTS / HUMAN LIFECYCLE IS THE LIFECYCLE OF A PLANT

As explained by Kövecses (2002), the reason why a target concept is understood through a number of different source domains is because a single source concept is unable to cater to all aspects of a target concept. Given the fact that a target concept such as life can be conceptualized by a host of source domains – such as PLAY, GAME, FIRE, LIGHT, etc. – the question necessarily arises what motivates speakers to choose one metaphor over the other?

<sup>2</sup> As is customary in cognitive linguistic literature, we will use small caps for conceptual metaphors.

<sup>3</sup> The basic premise of the paper is that conceptual metaphors are a part of the ordinary speaker’s conceptual system, and provide a means of organizing knowledge about the world. Their psychological reality, however, has been a question of much debate, the scope of which falls outside of the present paper. Nevertheless, there is some evidence for the psychological reality of the LIFE IS A JOURNEY metaphor. In a series of psycholinguistic experiments, Katz and Taylor (2008) have found evidence for the LIFE IS A JOURNEY conceptual metaphor in both semantic and episodic memory (though it was less salient in the latter).

<sup>4</sup> Attested in a number of languages, such as English and Hungarian (see Kövecses 2002) and Turkish (Özçalışkan 2003) among others.

<sup>5</sup> This is by no means surprising. As explained by Lakoff and Turner (1989: 9), conceptual metaphors are not the “unique creations” of poets but are part of culture. Poets are members of that culture and thus it is natural that they exploit and make use of the available metaphorical conceptualizations.

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3 This question was elaborated on in detail in Kövecses' (2015) most recent monograph, *Where*  
4 *Metaphors Come From: Reconsidering Context in Metaphor*, in which it is claimed that  
5 metaphorical conceptualizations arise from global contexts on the one hand, and local  
6 contexts on the other; these contexts are then differentiated into further levels (see pp. 100–  
7 12). Thus, the global context (which Kövecses understands very broadly as the world around  
8 us) is made up of the immediate physical environment, the social setting, the cultural setting,  
9 differential memory, and differential concerns and interests. The local context – broadly  
10 speaking – is the discourse situation itself, which includes both the physical setting, as well as  
11 the participants' knowledge about the topic and the main entities in the discourse. These  
12 motivational forces, taken together, are referred to by Kövecses as “contextual influence” (p.  
13 71), and constantly mold our metaphorical conceptualizations.

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16 Which of these, however, plays a more significant role in making sense of life? Previous  
17 cognitive linguistic research (Kövecses 2005; Schmidt and Brdar 2009) on the metaphorical  
18 conceptualizations of American English and Hungarian speakers does indicate that cultural  
19 history (also referred to as “differential memory” by Kövecses) plays a crucial factor. While  
20 American English speakers have a more positive, active and engaged approach to life,  
21 Hungarians tend to take a more negative, passive, fatalistic perspective. This difference has  
22 been accounted for by Kövecses (2005) as a result of the challenging and often difficult path  
23 that Hungary has had to follow throughout its 1,100-year-old history, constantly battling other  
24 nations for survival. Thus, Hungarians have a strong cultural bias to think more negatively  
25 about life than, for example, Americans. Yet the research that formed the basis of this  
26 observation was carried out nearly 15 years ago; further, it was highly limited in the number  
27 of respondents (see section 2 for a detailed elaboration). 15 years is a sufficiently long period  
28 to re-evaluate past results and to investigate the validity of Kövecses' (2005) observation  
29 about the more negative mind-set of Hungarians.

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32 The present paper sets out to accomplish this task by raising the following two research  
33 questions: 1) how do Hungarians – especially teenagers – think about life today; and 2) what  
34 motivates their choice of metaphorical conceptualization about life. Thanks to the internet and  
35 the emergence of a US-dominated global culture that transcends national borders and even  
36 national languages (transmitted through music, movies, games, etc. that are available to  
37 everyone immediately), underlying, culture-specific Hungarian attitudes might also shift away  
38 from more idiosyncratic and nationally constructed ones toward more American (and global)  
39 conceptualizations. Thus, with regard to question no. 1, we hypothesized that Hungarian  
40 teenagers' metaphors of life would now be closer to the American mindset (as reported by  
41 Kövecses [2005]), implying a generally more positive outlook on life. If this is indeed the  
42 case, then – with regard to question no. 2 – we further hypothesized that computer use  
43 (especially gaming, social networking, watching videos, etc.) would serve as a significant  
44 source domain for the conceptualization of life, especially in the form of the LIFE IS A GAME  
45 metaphor.

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48 The paper is structured in the following. After the Introduction, section 2 discusses  
49 previous cognitive linguistic studies on the conceptualization of life in Hungarian, as opposed  
50 to American English. Section 3 describes the methodology of the research, while section 4  
51 and 5 analyze the results. The last, sixth, section concludes.

## 52 53 54 55 **2 Previous research on the metaphorical conceptualization of life in Hungarian**

56 As far as we know, the only available study on Hungarian metaphorical conceptualizations of  
57 life comes from Köves (2002; cited in Kövecses 2005), who asked twenty Hungarians and  
58 twenty Americans (living in Hungary) to write a one-to-two page essay on life. Köves asked  
59 the participants to frame their essays along the following questions: 1) How do you view  
60 human life in general?; 2) What does life mean to you?; 3) What do you consider to be a

successful life?; and 4) What is your view on life based on your personal experiences and thoughts? Despite the fact that the word *metaphor* did not appear in the instructions, and the participants were not asked to express their thoughts by resorting to metaphor, the study was a success in the sense that all of the essays drew on metaphors either implicitly (via figurative expressions) or explicitly (by explaining LIFE through the use of an analogy). Köves then analyzed the individual texts by identifying the conceptual metaphors underlying the metaphorical linguistic expressions and drew up a list of the ten most frequently occurring conceptual metaphors in the Hungarian and American essays. These metaphors are depicted in *Table 1*.

*Table 1.* The 10 most frequent Hungarian and American English conceptualizations of LIFE.

Hungarian	American English
<i>Life is a(n) ...</i>	<i>Life is a(n) ...</i>
1. struggle/war	1. precious possession
2. compromise	2. game
3. journey	3. journey
4. gift	4. container
5. possibility	5. gamble
6. puzzle	6. compromise
7. labyrinth	7. experiment
8. game	8. test
9. freedom	9. war
10. challenge	10. play

As Kövecses (2005: 84–5) points out, many of the metaphors were shared: COMPROMISE, GAME, JOURNEY and WAR showed up in both lists. Furthermore, the American source domain of PRECIOUS POSSESSION is very close in meaning to the Hungarian GIFT, further increasing the number of common source domains. However, these shared metaphors ranked quite differently in the lists – GIFT ranked only fourth on the Hungarian list, while it was the second prevalent metaphor in the American essays. As for GAME, it figured as only the eighth most popular source domain in the Hungarian essays, while it was the third most frequently used metaphor in the American conceptualizations. Further, COMPROMISE was only sixth on the American list, while it was the second item on the Hungarian one.

The top three Hungarian source domains were STRUGGLE/WAR, COMPROMISE and JOURNEY, as opposed to the American PRECIOUS POSSESSION, GAME and JOURNEY. Accordingly, Hungarians wrote about life as *battles that have to be won*, people *having to fight* throughout life, and people always having to *prove and fight*, which is *exhausting and tiring* most of the time. At the same time, Americans wrote about *life as the most precious commodity, something that we have to cherish and take care of*, and something *precious underestimated by others*. Regarding the second most frequently used metaphors on the respective lists, Hungarians wrote about *accepting life* as it is given to them, as opposed to the Americans, who wrote about the *stakes being high* and making their life as good as possible *within the limits and rules of this game*. As for the JOURNEY metaphor, which appears as the third most frequently used conceptualization on both of the lists, the emphases were different in the two languages under comparison. Americans mentioned its goal-orientedness (e.g., *striving to reach our destination* in life), whereas Hungarians focused on the obstacles along the way (e.g., *the road sometimes being bumpy*).

As Kövecses (2005) underlines, Table 1 is not just a simple frequency list. Instead, “[i]t suggests that Americans and Hungarians have *different concepts* of life and that the differences arise as a result of the different preferences in the use of largely overlapping

source domains” (p. 85; emphasis as in original). In other words, the metaphors that are available to both linguistic communities might be more-or-less similar; nevertheless, the differences in attitude towards life arise from which of these metaphors get to be used more often by the respective linguistic communities and thus which become more established and more entrenched in speakers’ minds.

Yet how do these “different concepts of life” arise? Kövecses (2005) claims that the difference can be accounted for by cultural history – in the course of the 1,100 year-long history of Hungary, the country had to wage constant battles for survival, wedged between Germanic-speaking peoples in the West, and Slavic-speaking peoples in the East. This has had an imprint on Hungarian cultural and social history,<sup>6</sup> prompting Hungarians to think of life in terms of struggle and compromise. On the other hand, one of the foundational metaphors of American culture is LIFE IS ENTERTAINMENT, which originated in the consumption-oriented culture of twentieth-century America.<sup>7</sup> GAME, which surfaced as second on the American list, can be considered as a manifestation of the LIFE IS ENTERTAINMENT metaphor.<sup>8</sup>

It might be argued that these subtle differences in outlook between Hungarian and American English speakers is in no way revealing, as the results come from a single study with a very limited number of participants. However, another case study that focused on the translatability of linguistic metaphorical expressions of the LOVE IS A JOURNEY metaphor from English to Hungarian provide further interesting data. Kövecses (2005) simply took the idiomatic expressions of the LOVE IS A JOURNEY metaphor that were provided by Lakoff and Johnson (1980), and had these then translated into Hungarian by his students. Most of the (American) English expressions did have a Hungarian counterpart; yet, when these were compared to one another by focusing on the lexical and grammatical differences, subtle yet significant differences could be observed between the two languages, pointing to more general differences in outlook towards LOVE – these are summed up in *Table 2*.

*Table 2.* Differences in attitude towards LOVE in American English and Hungarian.

American English	Hungarian
more <b>action-oriented</b> approach to love	more <b>passive</b> attitude to love
more <b>individualistic, self-controlled</b> attitude to love	more <b>fatalistic</b> attitude to love
<b>more success-oriented</b> attitude to problematic situations in love	<b>less success-oriented</b> attitude to problematic situations in love
<b>more extroverted</b> attitude to success in love	<b>less extroverted</b> attitude to success in love

Basically, what Kövecses (2005) found was that while both languages share the LOVE IS A JOURNEY conceptual metaphor, a close inspection of the linguistic metaphorical expressions reveals a significant difference in outlook. It seems that the Hungarian data suggest a more passive, fatalistic, insecure and introverted attitude to love in general, as opposed to the

<sup>6</sup> Kövecses (2005: 241) uses the term *memory* here to refer to events that occurred in history and which are remembered through the collective unconscious of a group.

<sup>7</sup> This consumption-oriented culture emphasized a “culture of personality”, replacing the previous Puritan production-oriented culture that focused on one’s character and moral values (Kövecses 2005: 186).

<sup>8</sup> This is a central metaphor in American culture (Kövecses 2006); the anthropologist Bradd Shore (1996) uses the term “foundational schema” for the same concept. See also Yu and Jia (2016), who demonstrate the pervasiveness of the somewhat similar LIFE IS A SHOW metaphor in Chinese.

American data, which imply a more active, individualistic, success-oriented and extroverted attitude.<sup>9</sup>

Somewhat similar results emerged in a study by Schmidt and Brdar (2009), who analyzed the universality of the LIFE IS A (GAMBLING) GAME metaphor in American English, Croatian and Hungarian. In effect, they followed in the footsteps of Kövecses' (2005) cross-linguistic study mentioned above, and translated the linguistic metaphorical expressions of the LIFE IS A (GAMBLING) GAME metaphor mentioned in *Metaphors We Live By* (Lakoff and Johnson 1980) into Croatian and Hungarian.<sup>10</sup> In most of the cases what they found was that while the Croatian and Hungarian examples did have a counterpart with the same figurative meaning that was also motivated by the LIFE IS A (GAMBLING) GAME metaphor, the literal meaning of the expressions was different. For example, the closest Hungarian equivalent of the American English expression "It's a *toss-up*" (when there is an equal chance of something happening) is "Ez *lutri*", which can be literally translated as "This is lottery". A general pattern emerged in the data: both the Hungarian and the Croatian expressions had a tendency to draw on the concept of lottery, while the American English expressions were mostly motivated by other types of gambling games, most notably dice and card games. Lottery is a rather passive type of gambling game – one only needs to wait for the number to be drawn. This is in stark contrast to dice and card games, where the player needs to make constant decisions and also assess the chances and risks – and can thus be regarded as more active type of gambling games. Schmidt and Brdar reason that the difference in the choice of gambling games that motivate American English versus Croatian and Hungarian metaphorical linguistic expressions reflects a different mentality or attitude toward life in general – while Americans have a more active approach and wish to remain in control of their lives, Croatians and Hungarians are more passive and accept things as they are.<sup>11</sup>

Very generally speaking what the linguistic data seem to suggest is that how life is viewed in American English and Hungarian falls into a pattern. While there is no clear-cut evidence for the psychological reality of the Hungarian mindset outlined above,<sup>12</sup> there are some

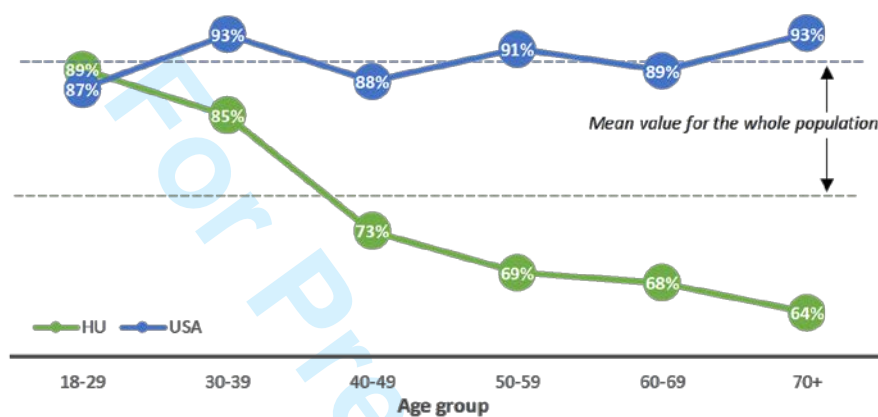
<sup>9</sup> As an illustration of the more passive and fatalistic outlook inherent in the Hungarian data, consider the expressions *We'll just have to go our separate ways* or *We can't turn back now*, both of which use active agents. In the Hungarian equivalents, however, there are no active agents making an internal decision on the future of the relationship – this is carried out by external conditions, such as a fork in the road: *Elválnak útjaink* – Separate-3<sup>rd</sup> PERS PL way-POSS-PL ("Our roads separate"); or the lack of a road: *Innen nincs visszaút* – (from-here) already none back-way ("There is no going back from here"). For further analysis of the data, see Kövecses (2005).

<sup>10</sup> These expressions included the following: I'll take my *chances*; the *odds* are against me; he's holding all the *aces*; it's a *toss-up*; if you *play your cards right*, you can do it; where is he when the *chips* are down?; that's my *ace in the hole*; etc.

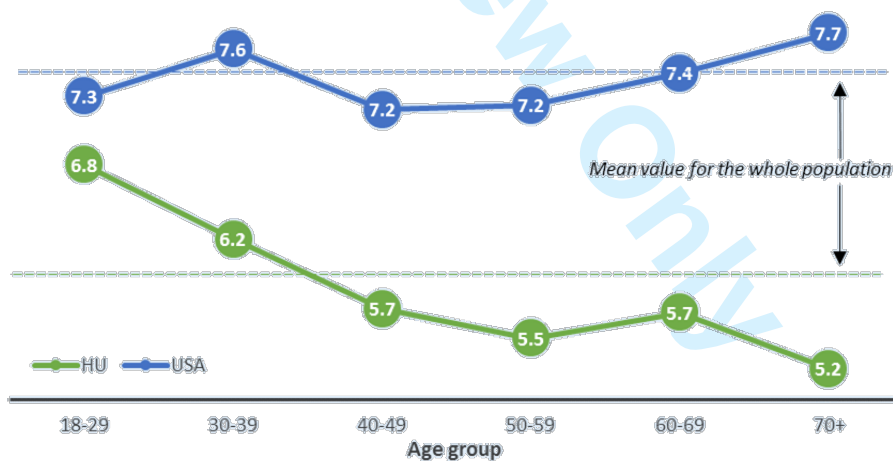
<sup>11</sup> The more active – as opposed to passive – attitude of Americans towards LIFE emerges in other linguistic examples as well. Consider for example, the preference of *take* versus *have* in phrases such as *take a bath* and *take a walk* (British English has a preference for *have*). Further, Americans use sports and games as source domains to conceptualize a much wider range of abstract concepts than other nations, which reinforces the active attitude associated with Americans. As Kövecses (2015: 102) explains, "the reality (or maybe just the myth) of having a trait [such as the action-orientedness of Americans] may give rise to a heavy reliance on a metaphorical source domain that is coherent with the trait".

<sup>12</sup> Research on the analysis of national symbols – such as national anthems – and their correlations with suicide rates offer an interesting perspective on the issue. A national symbol such as a national anthem is a metaphor for national identity (Cerulo 1995), and thus can be used to serve as a basis of research into national identities. See, for example, Lester and Gunn (2011a, 2011b) who analyzed national anthems and their correlation with suicide rates. For most of the 20th century, Hungary had one of the highest suicide rates in the world. What Lester and Gunn found was that suicide rates were positively associated with the proportion of low notes in national anthems; there was also a weak association of suicide rates with how gloomy and sad

tentative results from sociology in the form of cross-national value surveys (on their history and application see e.g. Bjørnskov 2006; Hofstede 2001; Inglehart 1997; Knack and Keefer 1997; Pryor 2005), such as the World Values Survey, that do corroborate some of these findings. One of the questions of the WVS is concerned with the feeling of happiness and general satisfaction with life. As *Figures 1a* and *1b* show,<sup>13</sup> the Hungarian and the American responses show quite different trends with respect to these questions. The percentage of those who claim themselves to be happy is basically the same both in Hungary and in the US among those aged between 18 and 29 (87% and 89%, respectively), and their general satisfaction with life is also relatively the same (the difference being only 0.5 percentage points).



*Figure 1a.* Percentage of those who consider themselves to be “very” or “rather” happy.



*Figure 1b.* Average life satisfaction values on 1–10 scale. 1: completely dissatisfied; 10: completely satisfied.

Nevertheless, while the American data reflect a remarkably stable and even trend, implying that the level of happiness and satisfaction with life remains constant over all the age groups,

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they were. Similar results were reported by Vörös et al. (2012), who carried out a detailed textual analysis of the national anthems of Hungary, Germany, Poland, the United States and the United Kingdom.

<sup>13</sup> Source of data: World Values Survey, 5th wave (Hungary: 2009; USA: 2011).



the Hungarian data show a somewhat different trend, with figures declining sharply in every single age group. As a result, over the age of 50, the two nations show very different patterns, which do support to some degree the findings reported by Kövecses (2005) regarding the more negative mindset of Hungarians as opposed to the more positive one of Americans. Yet the WVS results also draw attention to the remarkably similar trends found in the younger generations (the causes of which are yet to be accounted for). However, the more negative outlook of the older generations could be explained by both period and cohort effects, namely current negative experiences (such as economic difficulties and social isolation), and the impact of early adulthood socialization under socialism.<sup>14</sup>

Such results, taken together with the conceptualizations of LIFE and LOVE described above, paint a somewhat dark picture of the Hungarian mentality. Two questions arise immediately: 1) Is it possible for Hungarians to change their outlook?; and 2) Is this outlook still predominant in Hungary today? The answer to the first question – from a cognitive linguistic perspective at least – resides in the conceptualizations that we use for abstract concepts such as LIFE. As already elaborated upon in section 1 of the present paper, Kövecses (2015) claims that metaphorical conceptualizations arise from the combination of global contexts and local contexts, which are referred to by Kövecses under the umbrella term “contextual influence” (p. 71), and – importantly – constantly shape the metaphorical conceptualizations that we have, which in turn also shape the way we conceptualize the world (ibid.):

We can think of this contextual influence on conceptualization as large-scale priming by context that is occurring simultaneously (and competitively) with the influence of entrenched embodiment. As a result of this interaction (this “in vivo” priming), the abstract concepts in the conceptual system and the system as such are constantly shaped and at the same time they shape the way we think about the world.

Following this reasoning, it can be speculated that attitudes and outlooks toward life can change over time, as the contextual setting also changes. Kövecses (2005, 2015) emphasized the significance of cultural history in how we metaphorically conceptualize of life, explaining the more negative Hungarian mindset by the troubled history of the nation. Yet is this cultural factor still as significant in motivating our metaphorical conceptualizations as it has been nearly 15 years ago? Thanks to the internet and the emergence of a US-dominated global culture that transcends national borders and even national languages (transmitted through music, movies, games, etc. that are available to everyone immediately), attitudes towards life might also shift away from more idiosyncratic, Hungarian ones toward more globally uniform (and American) ones.<sup>15</sup>

Such an influence of the global context has in fact been reported by Schmidt and Brdar (2009), who checked the frequency of the sequence “life is a game” versus “life is a struggle” on the web in both Hungarian and Croatian, and found that – contrary to the results reported by Kövecses (2005) –, the former (“life is a game”) was twice as more prevalent than the latter (“life is a struggle”) in *both* languages. Schmidt and Brdar reason that their findings reflect the attitude of the Gaming Generation – in other words, people who grew up in the 1980s playing video and computer games, and are now proficient users of the internet. Further, in an association test where Hungarian native-speaker subjects had to list five things that came to their mind in connection with LIFE, Hegedűs (2016) found that the most frequent

<sup>14</sup> Participants belonging to the over 50 age group were born before 1960, which meant that they spent at least half of their life in an authoritarian regime.

<sup>15</sup> At this point we wish to emphasize that we are using *global* in a slightly different interpretation as Kövecses (2015) does, in his differentiation between global and local contexts. By *global* we mean “transnational”, i.e., transgressing national boundaries.

semantic domains that the most frequent concepts that emerged in the study were HAPPINESS, DEATH, LOVE and FAMILY & FRIENDS. The concepts were too vague and neutral to suggest any culture-specific influence; instead, they more rather were a reflection of general concerns about human existence.<sup>16</sup>

Schmidt and Brdar's (2009) and Hegedűs' (2016) studies imply that the answer to the second question raised above, i.e., whether Hungarians (still) have a more negative attitude toward LIFE, might in fact be negative. However, the results of both of these studies are very tentative and non-representative and do not say much with respect to *how* Hungarians conceptualize life nowadays and *why* they conceptualize it the way they do. Thus, in order to fill in this substantial gap in the available research, we surveyed Hungarian teenagers on how they conceptualized LIFE by asking them the simple question: "What would you compare life with and why?" (Methodological details are provided in the next section.) We carried out the survey with the aim of answering the following two main questions:

- 1) What conceptual preferences do Hungarian teenagers have for LIFE and how similar or how different are these to the results of previous studies?
- 2) What contexts – social and/or cultural – can be identified as being influential in the emergence of metaphorical conceptualizations?

Besides the evident implications for metaphor research (both theoretical and empirical – with regard to the significance of the latter for cognitive linguistic investigations, see Gibbs 2007), our study also aims to tap into cognitive sociolinguistic investigations by focusing on the factors that result in language-internal variation of metaphor usage. As emphasized by Geeraerts et al. (2010a: 6), despite the growing interest within cognitive linguistics for socio-variationist studies (see, for example, Kristiansen and Dirven 2008; Geeraerts et al. 2010b; Pütz et al. 2014), it still remains a relatively understudied area.<sup>17</sup>

### 3 Methodology

In order to acquire as much data as possible, we collaborated with a nationwide research carried out in the second half of 2015 on the media and internet use of Hungarian youth. The nationally representative<sup>18</sup> self-administered questionnaire contained 76 questions revolving primarily around media- and internet-related themes (such as how subjects spent their free time, what electronic devices they had at home, what sort of social media and online networks they were involved in, etc.);<sup>19</sup> however, the survey also asked about the respondents' general satisfaction with life and their future plans for learning and working abroad. In line with these queries, we included the following question in the survey – with the explicit aim of collecting source domains for LIFE: "People think about life in very different ways. What would you compare life with and why? Please complete the following sentence. Note that there are no right or wrong answers; you can write anything that comes to your mind: Life is like ..., because ..."<sup>20</sup>

<sup>16</sup> Hegedűs (2016) also evaluated the responses with regard to their positive/negative evaluation – accordingly, terms associated with the domains of happiness or love were considered as positive, while those associated with death or difficulty were evaluated as negative. In sum, out of the total of 108 responses, 55.55% were positive, 23.15% negative and 21.35% neutral.

<sup>17</sup> In this respect we fully agree with Dirven (2005: 40), according to whom language variation is still "wildly absent from cognitive-linguistic research, whereas in fact it ought to be at the heart of its research agenda".

<sup>18</sup> The sampling frame was based on primary and secondary schools (institutions) in the country.

<sup>19</sup> The results of this research do not form part of the present paper.

<sup>20</sup> The original Hungarian version was the following: "Az emberek sokféleképpen szoktak gondolkodni az életről. Te személy szerint mihez hasonlítanád az életet és miért? Arra kérünk, hogy egészítsd ki az alábbi

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Needless to say, we are aware of the limitations that this particular method entails. The questionnaire elicited from the participants only a single concept (as an analogy for LIFE), and no detailed elaboration was further required from them (though nearly all of the students provided a brief 1–2 sentence explanation as to their choice). Such an approach implies that some of the answers might be spontaneous, spur-of-the-moment responses, and not the result of a conscious, deliberated reflection on what life is and how it is understood (note that the survey itself had 75 other questions in it, too, which were unrelated to our query). Thus, our method is in stark contrast to studies where the subjects had to write an essay, and had definitely more time and space to think and write about life in general.<sup>21</sup>

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Nevertheless, we believe that this limitation is made up for by two significant factors. First, as far as we know, never before has such a large-scale research been carried out on any metaphorical conceptualization (including life for that matter). The questionnaire was completed by 1,168 seventh graders (primary school pupils; mean age: 13 years) and 1,426 eleventh graders from three different types of schools (vocational school – these provide specialist training in a particular job, such as a mechanic, a carpenter, etc.; secondary vocational – also providing specialist training but also offering students the “maturation exam” at the end of their studies, which is need to enter higher education; and grammar school, which is geared toward students who wish to enter higher education; mean age: 17 years), a total of 2,594 students from 128 institutions. This means that the patterns that we were able to identify in the questionnaire are representative to this particular age group and are thus generalizable and can be considered as providing a relatively accurate picture of contemporary Hungarian teenagers’ conceptualizations of life. This cannot be said for any of the previous researches, which were either extremely limited in their number of subjects (Köves 2002; cited in Kövecses 2005; Hegedűs 2016), or the identified metaphorical conceptualizations were based on linguistic introspection and/or limited corpus data (Kövecses 2005; Schmidt and Brdar 2009). Second, the questionnaire also contained standard demographic questions and those related to socio-economic status (SES) and household composition, which implies that we could investigate the correlations (if any existed) between preferences for source domains and sociological variables, and accordingly tease out the socio-contextual factors that can motivate or influence metaphorical conceptualizations.

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We had to filter out a number of responses from the final evaluation, for a number of reasons – these being any one of the following:

- no answer was provided;
- the answer was “I don’t know”;
- the answer was an adjective (*good, bad, interesting, boring, etc.*);
- the answer was a too generic concept (such as “thing”, “state” or “process”);
- life was compared to life or reality or to another person(’s life);
- the response was not related to the question (e.g., “our financial status is terrible”);
- multiple answers were provided;
- the answer was ambiguous.

In the end, we had a final list of 834 responses, 32% of the original sample. This relatively low number might be accounted for by the fact that the question we asked the teenagers about their understanding of life was open-ended. This was, however, a deliberate choice on our part. After all, we could have provided the respondents with a list of ca. 10 items (based on

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*mondatot! Fontos, hogy nincs jó vagy rossz választ! Nyugodtan írhatok bármit, ami az eszedbe jut! Az élet olyan mint ..., mert ...”*

<sup>21</sup> In order to account for this limitation – and as a next step in our research – we have started gathering data from focus groups, where we ask Hungarian teenagers about their attitudes to and thoughts on life.

previous metaphor studies) from which they could have chosen their answer. While this method might have solicited more responses, it would have also biased the data, as it would have been a subjective decision on our part which source domains the subjects could have chosen and it would have been very difficult (if not impossible) to justify our selection. Further, and more importantly, we were also interested in who were able to answer the question, and who were not – in other words, which teenagers had a greater inclination and/or ability to verbalize their outlook on life via a metaphorical image. The results are discussed in the following section.

#### 4 Results – Verbalization of metaphorical conceptualization of life

One of the greatest tenets of Lakoff and Johnson (1980) is that metaphor is all-pervasive to our thinking and it is also a universal cognitive process. However, is everybody equally inclined to verbalize these conceptualizations? As far as we know, there has been no previous study to investigate the degree to which language users are able (or inclined) to verbalize conceptual metaphors, or what factors might affect this ability or inclination. Our results, however, suggest that ability and/or inclination toward the verbalization of metaphorical conceptualizations is not equally all pervasive throughout a linguistic community but depend on a number of social factors, such as type of school, academic achievement, socio-economic status and reading habits.

We used a multivariate statistical analysis to investigate which social factors had a significant impact on whether a subject was able to provide a valid and identifiable life metaphor. Generally speaking, a binary logistic regression model is well suited for describing and testing hypotheses about relationships between a dichotomous categorical outcome variable and one or more categorical or continuous predictor variables (Peng et al. 2002). In our model, the presence of a valid and identifiable metaphor was used as an outcome (0: no or invalid metaphor; 1: valid metaphor). We used a stepwise forward selection method, where the entry of any predictor variable was based on testing the significance of the score statistics, and removal testing was based on the probability of Wald statistics. First, all potential predictor variables that could have been theoretically related to the outcome variable (i.e., presence of a valid and identifiable metaphor) were entered into the model. As a result of the stepwise selection method, in the final model only four, statistically significant predictor variables remained: (1) type of school; (2) mother's level of education; (3) last available grade in Hungarian literature; and (4) frequency of reading.<sup>22</sup> In other words, these factors proved to be the primary predictors for providing a valid and identifiable metaphor in the survey. The inferential goodness-of-fit test (Hosmer and Lemeshov) yielded an insignificant  $\chi^2$  value ( $p=.280$ ), while the likelihood ratio test proved to be significant ( $p=.000$ ) – both suggesting that statistically the model proved to fit the data well.

What can be seen from *Table 3* is that studying in either a secondary vocational or grammar school increased the likelihood of providing a valid life metaphor, as compared to students in primary and vocational schools (odds ratio for secondary vocational school:  $e^{\beta}=1.500$ ,  $p=.005$ ; odds ratio for grammar school:  $e^{\beta}=1.1466$ ,  $p=.006$ ; however, the effect of studying in vocational school compared to primary school as a reference category proved to

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<sup>22</sup> The following variables, however, proved to be statistically insignificant for the outcome variable: 1) age; 2) father's level of education; 3) average amount of time spent watching TV; 4) average amount of time spent using the Internet; 5) last available grade in maths; 6) frequency of playing board games; 7) frequency of playing traditional games (e.g., Lego); 8) frequency of playing video games; 9) frequency of reading newspapers; 10) frequency of going to the theatre, museums, classical music concerts; 11) frequency of listening to music; 12) frequency of going to the cinema.

be insignificant).<sup>23</sup> While vocational schools usually provide direct entry to the labor market, the main purpose of grammar schools is to prepare for tertiary education. For this reason, grammar schools offer a much wider range of (theoretical) subjects to students and also engage students intellectually to a much greater degree than either vocational or secondary vocational schools (note that only the academically highest achieving students are offered a place in grammar schools). At this point we do not have the necessary data to identify the exact relationship between ability to verbalize metaphorical conceptualizations and type of school (i.e., type of education), but we do hypothesize that it is related to general language competence and skills (to be discussed in more detail below).

Table 3. Logistic regression analysis for providing a valid life metaphor.

Predictor	$\beta$	SE $\beta$	Wald's $\chi^2$	df	p	$e^\beta$ (odds ratio)
Constant	-2.177	.247	77.586	1	.000	.113
Type of school <sup>1</sup>			12.628	3	.006	
Vocational	.073	.165	.195	1	.659	1.076
Secondary vocational	.405	.143	8.041	1	.005	1.500
Grammar	.383	.139	7.531	1	.006	1.466
Mother's level of education <sup>2</sup>			6.827	2	.033	
Secondary	.253	.132	3.678	1	.055	1.288
Tertiary	.335	.136	6.092	1	.014	1.399
Last available grade in literature <sup>3</sup>	.426	.121	12.329	1	.000	1.531
Frequency of reading <sup>4</sup>	.214	.044	23.770	1	.000	1.239
<b>Test</b>			<b><math>\chi^2</math></b>	<b>df</b>	<b>p</b>	
Overall model evaluation						
Likelihood ratio test			83.845	7	.000	
Goodness-of-fit test						
Hosmer & Lemeshov			9.785	8	.280	

-2LL: 2087.324 Cox and Snell  $R^2 = .050$  Nagelkerke  $R^2 = .068$

<sup>1</sup> Reference category: primary school

<sup>2</sup> Reference category: primary level education

<sup>3</sup> Measured on 1 to 5 scale (1: worst, 5: best)

<sup>4</sup> 1: never, 2: rarely, 3: few times a month, 4: few times a week, 5: every day or almost every day

Method used for model: Forward stepwise

This hypothesis is strengthened by our data for the relationship between the presence of a valid and identifiable metaphor in the questionnaire and the mother's level of education. Although both parents' level of education was included in the initial model, only the mother's level of education had a significant effect on the results. Compared to mothers with primary education (as a reference category), mothers with secondary ( $e^\beta=1.288$   $p=.055$ ) or tertiary ( $e^\beta=1.399$   $p=0.014$ ) levels of education meant greater odds for their children to provide a valid and identifiable metaphor in the questionnaire. It seems fair to say that these two variables –

<sup>23</sup> Primary school was used as a reference category, so the odds ratios represent changes relative to this benchmark.

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3 type of school and mother's level of education – surely go hand-in-hand: both show exactly  
4 the same trend. This is not quite surprising, however: it can be reasonably assumed that  
5 students with college-educated parents are more likely to pursue their education in  
6 academically more prestigious institutions (such as grammar schools).  
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8 Nevertheless, this assumption does not quite explain our data. We hypothesize that the  
9 reasons also need to be sought in general language competence and skills. There is a  
10 significant body of research that has demonstrated the relation between SES and children's  
11 language development; children with a high SES mother show higher rates of language  
12 development than those with a low SES mother (Arriaga et al. 1998; Dollaghan et al. 1999;  
13 Hoff-Ginsberg 1991; Huttenlocher et al. 1991).<sup>24</sup> Generally speaking, children with a higher  
14 SES mother perform better in all areas of language – they have larger vocabularies (Oller and  
15 Eilers 2002), perform better on tests measuring grammatical knowledge (Huttenlocher et al.  
16 2002) and have better communicative style and skill (Hoff 2006). More importantly, and with  
17 even greater relevance for the present study, “children with less educated parents *less*  
18 *frequently use language to analyze and reflect*, to reason and justify, or to predict and  
19 consider alternative possibilities than children with more educated parents” (Hoff 2006: 62;  
20 emphasis by us). Our data seem to fit into these trends. Although we do not wish to question  
21 the pervasiveness of metaphor in thought, our results indicate that the ability to *verbalize*  
22 metaphorical conceptualizations might be constrained by various factors, such as type of  
23 education and the mother's SES. Despite the fact that metaphor is primarily a conceptual  
24 device and not just a matter of language, it is nevertheless manifested most evidently in  
25 language. A greater competence in language (ranging across vocabulary, grammar,  
26 communicative skills, etc.) might provide a wider range of linguistic experience that can be  
27 utilized for “analysis and reflection” (to use Hoff's 2006 terms), which can then serve as a  
28 basis for the expression of metaphorical source domains.  
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30 This hypothesis is also strengthened by our results concerning the relationship between  
31 academic achievement and reading habits on the one hand and providing a valid and  
32 identifiable metaphor on the other hand. Academic achievement was measured by the last  
33 available school grade in maths and literature. Results show that the latter is ascertained to  
34 have the *statistically strongest impact* on the existence of a life metaphor ( $e^{\beta}=1.531$   $p=0.000$ ).  
35 A good grade in literature might presume positive attitudes towards reading, so perhaps it is  
36 not surprising that those who claimed themselves to be frequent readers of books (here  
37 meaning books not required by school) also showed a greater inclination toward providing a  
38 metaphor ( $e^{\beta}=1.239$   $p=0.000$ ). In sum, these predictors shed light on the complex nature of  
39 individual differences in the verbalization of metaphorical conceptualizations based on  
40 inherited social and cultural status, academic achievement, and how free time is spent.  
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## 47 **5 Results - Hungarian LIFE metaphors**

48 As a first step, we examined what were the major metaphorical conceptualizations of LIFE in  
49 the responses; the results are presented in *Table 4*.<sup>25</sup> Some explanation as to the data is  
50 necessary. First of all, for the sake of simplicity and better comparison, we have categorized  
51 certain basic- or subordinate-level concepts under more higher-level ones. For example, in the  
52 case of FOOD, the respondents provided a large variety of specific food terms (box of  
53 chocolates, bun, goulash soup, pizza, pancake, pea soup, etc.), which we have grouped under  
54 the superordinate category of FOOD. Similarly, the source domain of ANIMAL includes a wide  
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59 <sup>24</sup> SES is a complex variable that includes a number of features, such as level of education, household income,  
60 occupation, etc. Nevertheless, in studies of language development, SES is most typically based on the  
mother's level of education (Ensminger et al. 2003).

<sup>25</sup> There were altogether 161 metaphor types.

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3 variety of animal species – birds, butterflies, horses, unicorns, ants, dogs, wolves, etc. While it  
4 might be claimed that such a method glosses over the details, its benefit is that is able to shed  
5 light on more general themes of LIFE conceptualizations, and also opens up the possibility for  
6 comparison with previous studies. Second, the column on the right-hand side depicts the  
7 number of examples that we were able to find for a particular conceptualization. We have  
8 decided to include only those concepts in the analysis that had at least a minimum of 5 tokens  
9 and thus an occurrence of a minimum of 0.5% in the sub-sample of teenagers who provided a  
10 valid metaphor.  
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14 *Table 4. Hungarian teenagers' responses: Life is a(n)...*  
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	Metaphor	No. of tokens	%	
17				
18				
19	1	game	79	9.5
20	2	food	56	6.7
21	3	journey	50	6.0
22	4	challenge	45	5.4
23	5	plant	44	5.3
24	6	rollercoaster	38	4.6
25	7	animal	28	3.4
26	8	movie	26	3.1
27	9	opportunity	24	2.9
28	10	adventure	22	2.6
29	11	cycle	22	2.6
30	12	gift	18	2.2
31	13	book	15	1.8
32	14	struggle	15	1.8
33	15	sports	14	1.7
34	16	story	14	1.7
35	17	treadwheel	14	1.7
36	18	happiness	12	1.4
37	19	time	12	1.4
38	20	weather	11	1.3
39	21	dream	10	1.2
40	22	sea	10	1.2
41	23	faeces	9	1.1
42	24	play	7	.8
43	25	building	6	.7
44	26	competition	6	.7
45	27	labyrinth	6	.7
46	28	learning	6	.7
47	29	river	6	.7
48	30	work	6	.7
49	31	hell	5	.6
50	32	war	5	.6
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3 A quick glance at *Table 4* makes it immediately evident that the metaphorical  
4 conceptualizations of contemporary Hungarian teenagers is closer to that of the American  
5 English speakers as reported by Köves (2002; cited in Kövecses 2005): two out of the three  
6 top metaphors in the respective data sets are shared (GAME and JOURNEY). At the same time,  
7 STRUGGLE/WAR and COMPROMISE – which appeared among the top three choices among the  
8 Hungarian respondents in 2002 – did not make it into even the top ten of the most frequent  
9 conceptualizations in the 2015 data (in fact, COMPROMISE did not show up at all in our data);  
10 this, however, might be explained by the relatively young age of the respondents, who have  
11 not yet had experienced as many difficulties in life or circumstances in which they had to  
12 accept compromise as, for instance, adults. Our hypothesis that computer use – via the LIFE IS  
13 GAME metaphor – would be a popular conceptualization among our respondents has been  
14 borne out by the data, as it surfaced as the most frequent metaphor, accounting for nearly 10%  
15 of the data. The answers that we received often relied on the world of computer games: “if  
16 you do something well, you can get to a higher level”, “if you mess up, you die”, “you need to  
17 collect points”. Nevertheless, many of the answers applied to GAME as a more general  
18 (superordinate) category (applicable to both computer games and other types of games):  
19 “some win, some lose”, “you can do whatever you like with it”, “you just need to know the  
20 rules”, etc. Specific games showed up relatively rarely, these being chess and gambling games  
21 (both 3% out of the total for the larger category of GAME), and card games and board games  
22 (both 2.5%).

23  
24 Quite unexpectedly, the second most frequent metaphorical conceptualization was FOOD,  
25 which did not show up as a potential source domain in previous researches. Nevertheless,  
26 nearly a quarter of the answers within this category likened life to a “box of chocolates”; our  
27 respondents explained their choice by saying “you never know what you’ll get”. This is in  
28 fact nearly a word-by-word quote from the movie *Forrest Gump* (1994), where the main  
29 protagonist says the following, “Mama always said life was like a box of chocolates. You  
30 never know what you’re gonna get”.<sup>26</sup> The use of this simile indicates the direct effect of  
31 American popular culture on Hungarian; the latter does not have any conventionalised phrase  
32 or expression that might be a manifestation of the LIFE IS A BOX OF CHOCOLATES metaphor.<sup>27</sup>  
33 Apart from the box of chocolates, all sorts of food showed up within this category –  
34 Hungarian staple foods such as pea soup and goulash. In these cases the main meaning focus  
35 (Kövecses 2002) was unpredictability, similarly to a box of chocolates – you never knew what  
36 you might find in your plate. International food also appeared, such as muffin, carrot cake,  
37 candy, chocolate, etc., where the main reason behind the selection was more rather based on  
38 optimism – students chose these source domains “because they taste good”.

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40 The third most frequent metaphorical conceptualization out of the total data was JOURNEY,  
41 accounting for 6% of the responses. Some of the answers were quite elaborate and rested  
42 upon a number of conventionalized mappings between the source and target domains,  
43 explaining that there were multiple paths to choose from, one needed to make decisions as to  
44 which way to go, and challenges along the way had to be tackled. In fact, CHALLENGE was the  
45 fourth most common metaphorical conceptualization (it ranked as the 10th most frequent  
46 metaphor in 2002 among the Hungarian data). In their answers, the respondents typically  
47 highlighted the fact that life was full of obstacles and was difficult (e.g., “there will be  
48 difficult times, and we have to meet these challenges”; “there are a lot of difficulties”, etc.),  
49 but there was an optimistic note to these answers as well, emphasizing perseverance and never  
50 giving up (“you need to persevere to reach your dreams”; “there will always be difficulties but  
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<sup>26</sup> Source: [https://en.wiktionary.org/wiki/life\\_is\\_like\\_a\\_box\\_of\\_chocolates](https://en.wiktionary.org/wiki/life_is_like_a_box_of_chocolates) (accessed 18 June 2016).

<sup>27</sup> Instead, the same figurative meaning is captured by the expression “life is full of surprises”; nevertheless, “surprise” did not figure among the answers.



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3 it depends on us whether we can overcome these”). Similar optimism could be detected in the  
4 answers that conceptualized life as an OPPORTUNITY (“every day is a new opportunity”; “we  
5 can try anything we want”, etc.), which ranked as the 10th most popular metaphor in 2015  
6 (and was the 5th most popular one in 2002).  
7

8 It seems then that optimism is a recurring theme within the answers – our Hungarian  
9 teenagers have a more-or-less positive outlook on life, which is in line with the World Value  
10 Survey results (see *Figure 1a* and *1b*). Besides this optimism, however, unpredictability has  
11 also appeared in a couple of the metaphors, as another frequent theme. Besides the already  
12 discussed FOOD, students who likened life to a rollercoaster ride (which was the 6<sup>th</sup> most  
13 frequent metaphor on our list), emphasized its unpredictable nature (“once you’re up, once  
14 you’re down”). The obviousness of the unpredictable nature of the rollercoaster ride was  
15 alluded to by responses such as “doesn’t need much explanation”, “self-evident”, etc.  
16 Unpredictably also showed up as main meaning focus in other metaphors as well, such as  
17 RIVER, SEA, SPORTS, WEATHER and even ADVENTURE (though in the latter case this  
18 unpredictability was construed as something “exciting”).  
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21 Regarding the conventionality of metaphors used by Hungarian teenagers in 2015, what  
22 can be definitely stated is that the most prevalent metaphorical conceptualizations (in  
23 particular, GAME and JOURNEY) were also among the most prevalent ones of the American  
24 English speakers in 2002 (Köves 2002; cited in Kövecses 2005). Many of the other popular  
25 (top ten) metaphors of the 2015 list, however, were unique to this particular survey – FOOD,  
26 PLANT, ANIMAL, ROLLERCOASTER, MOVIE, CYCLE and ADVENTURE did not appear on any of the  
27 2002 lists. With regard to the PLANT conceptualizations, the answers typically drew on the  
28 HUMAN LIFECYCLE IS THE LIFECYCLE OF A PLANT metaphor (“we are born, we grow and then  
29 we die”; “it dries up and we also die”, etc.); this feature of cyclicity was the main meaning  
30 focus with regard to the CYCLE metaphor, too. Both ANIMAL and MOVIE are unconventional  
31 source domains in that they are not mentioned in Lakoff and Turner’s (1989) or Kövecses’  
32 (2002) lists either. With regard to the former, the range of animals is very wide, and the  
33 metaphor relied on personification, whereby the life of a particular animal was mapped onto  
34 that of the individual. The animals that appeared in the answers included bird, horse, unicorn,  
35 wolf, rhino, sea cucumber, ant, turtle, snail, sloth and goat among others – their motivation  
36 might be linked to the remnants of childhood stories, where there is an abundance of  
37 personified animals. The emergence of the MOVIE metaphor, however, is less surprising, if the  
38 influence of the visual media on contemporary youth culture is considered. In fact, the MOVIE  
39 metaphor might be a novel instantiation of the LIFE IS ENTERTAINMENT metaphor, which has  
40 been described as a foundational metaphor of American culture by Kövecses (2006).  
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43 What social factors, however, motivate the *choice* of metaphor? In order to answer this  
44 question, we compared the frequency of the metaphors across the same variables that we used  
45 previously for interpreting the existence of a meaningful metaphor in the survey. Due to the  
46 relatively low token frequencies of the metaphors themselves, we had to apply a limit;  
47 therefore, only the six most frequently mentioned metaphors<sup>28</sup> were used in the analysis.  
48 Based on simple cross-tabulation, we tested for statistically significant relationships between  
49 the category of the metaphor and 16 other categorical variables describing the student’s  
50 family background and time consumption habits (see *Table 5*). A chi-square test of  
51 independence indicates that the following four variables had a statistically significant effect  
52 on the choice of metaphors: 1) the type of settlement; 2) mother’s highest level of education;  
53 3) level of English proficiency; and 4) last available grade in literature.  
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<sup>28</sup> GAME, FOOD, JOURNEY, CHALLENGE, PLANT and ROLLERCOASTER. The number of occurrences ranged from 79 (GAME) to 38 (ROLLERCOASTER).

Table 5. Choice of metaphor and sociological factors.

	METAPHOR						Total
	CHALLENGE	FOOD	GAME	JOURNEY	PLANT	ROLLER-COASTER	
<b>Type of settlement</b>							
Budapest	23%	16%	19%	14%	2%	29%	17%
County seat	30%	24%	23%	38%	32%	26%	28%
Town	23%	44%	23%	28%	25%	21%	27%
Village	25%	16%	35%	20%	41%	24%	27%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
Test of independence: $\chi^2$ (20, N=310) = 28.707, p<0.05							
<b>Mother's highest level of education</b>							
Primary	38%	19%	44%	26%	42%	35%	34%
Secondary	30%	26%	32%	24%	24%	11%	25%
Tertiary	32%	56%	24%	50%	34%	54%	41%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
Test of independence: $\chi^2$ (10, N=281) = 22.894, p<0.01							
<b>English proficiency level (based on self-reporting)</b>							
None	14%	5%	5%	2%	10%	3%	6%
Minimal	36%	16%	46%	30%	38%	29%	33%
Good	43%	61%	43%	48%	38%	50%	47%
Excellent	7%	18%	7%	20%	14%	18%	13%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
Test of independence: $\chi^2$ (5, N=307) = 17.033, p<0.01							
<b>Last available grade in literature</b>							
Moderate or worse (grade 1 thru 3)	24%	40%	40%	18%	33%	18%	30%
Good (grade 4 thru 5)	76%	60%	60%	82%	67%	82%	70%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
Test of independence: $\chi^2$ (5, N=289) = 11.883, p<0.05							

The most significant results of this analysis are the following:

1. In line with Kövecses' (2015: 100) hypothesis that the physical environment influences metaphorical conceptualizations, the single most striking observation to emerge from our data regarding type of settlement was the occurrence of the PLANT metaphor, which was basically non-existent (only 2 per cent) among students living in Budapest, the capital city of Hungary. By contrast, it was substantially overrepresented among those living in villages (41 per cent). These results suggest that the immediate physical environment in which one lives (such as closeness to nature) significantly affects the choice of metaphorical conceptualization.
2. Mothers with a tertiary level of education increased the occurrence of the FOOD, JOURNEY and ROLLERCOASTER metaphors, whereas mothers with only a primary level

of education led to larger proportions in the GAME, CHALLENGE and PLANT conceptualizations.<sup>29</sup>

3. The influence of the level of English proficiency is most remarkable in the case of FOOD. Almost 80 per cent of those whose metaphor was categorized as FOOD described themselves as being “good” or “excellent” in English. We hypothesize that these results are not independent from the fact that twelve occurrences of the aforementioned “box of chocolate” quote also appear in this category – thus, English proficiency might imply an affinity with Anglo-American culture, including movies. Similarly, a better knowledge of English could also be observed among those who chose JOURNEY or ROLLERCOASTER.
4. Finally, the last available grade in literature halves the six metaphors into two groups. Life as a JOURNEY, ROLLERCOASTER and (to a lesser extent) CHALLENGE were overrepresented among those with better grades (4 or 5 on a 1 to 5 scale, where 5 is “excellent” and 1 is “fail”), whereas average or worse grades were more likely to occur for FOOD, GAME and PLANT.

## 6 Conclusions

Due to the different methodologies that have been applied in previous research on Hungarian life metaphors, a direct comparison is not possible. However, and generally speaking, the metaphors of 2015 reflect a less negative mindset than the ones that were uncovered in 2002 (Köves 2002; cited in Kövecses 2015). Optimism is a recurring theme within the answers – Hungarian teenagers have a more-or-less positive outlook on life, which is in line with the World Value Survey results. There is also definite and observable shift toward American English conceptualizations of life, as indicated by the popularity of the GAME and JOURNEY metaphors and the emergence of the MOVIE metaphor. The significance of the latter should not be downplayed – it is a central metaphor of American culture, and it seems to be seeping into the Hungarian mindset, too. (Note, however, that we were not able to analyze its presence in more detail in statistical terms.) We believe that such results point to the growing influence of a US-dominated global culture, downplaying the effect of cultural history as a motivational force in the conceptualization of life, as elaborated upon by Kövecses (2005). At the same time, this influence is heavily counterbalanced by sociological factors. According to our data, a) the type of settlement; b) the mother’s highest level of education; c) the level of English proficiency; and d) the last available grade in literature had a statistically significant effect on what metaphor life was conceptualized by.

Second, we have also found that social factors play a significant role in speakers’ inclination toward metaphorical usage – inclination and/or ability to verbalize metaphorical conceptualizations is not equally all-pervasive throughout the whole linguistic community, but is curtailed by a) type of school and academic achievement; b) socio-economic status; and c) reading habits.

Based on the results it can be argued that the influence of an American global culture (at least when it comes to the source domain of life) is definitely gaining ground in Hungary among the younger generations’ conceptualizations of life, possibly decreasing the effect of more idiosyncratic and nationally constructed contexts embedded in cultural history, as defined by Kövecses (2005). Nevertheless, the Hungarian lists of 2002 and 2015 also shared a considerable number of metaphors which were not among the American English

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<sup>29</sup> Note that according to the data of the Hungarian Central Statistics Bureau, the level of education in the country is lower in villages than in towns. (Source: [http://www.ksh.hu/nepszamlalas/ablak\\_nepesseg\\_iskolazottsaga](http://www.ksh.hu/nepszamlalas/ablak_nepesseg_iskolazottsaga); accessed 25 November 2016)

conceptualizations, and which thus might indicate the delicate interplay of more global forces on the one hand and more local influences on the other.

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