

THE COGNITIVE CONCEPT OF GAME
IN AMERICAN ENGLISH
AND HUNGARIAN

By

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1994

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
DOCTOR OF PHILOSOPHY
May 2008

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AND HUNGARIAN

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DEDICATION

To my parents and
in memoriam
my brother

Szüleimnek és
testvérem emlékére

ACKNOWLEDGEMENTS

The keyboard is trembling as my fingers are clumsily searching for the words that could express my feelings and thoughts at this moment. But let me try. My work is the result of the continuous support of many people. First of all, my deepest appreciation goes to Dr. Carol Moder, my academic adviser, for her humanity, trust and encouragement which made me believe in my abilities to complete this venture in the first place. Professor Moder's devotion to teaching and research has inspired my commitment towards the exploration of linguistic niceties, and will always remain exemplary to me. I would also like to express my gratitude to my committee members. To Dr. Gene Halleck, for her genuine frankness and generosity with her time to provide innumerable practical suggestions on all facets of academic life. To Dr. Ravi Sheorey for his always open door and for transmitting a natural can-do approach to life and academia. To Dr. Shelia Kennison for grateheartedly sharing research ideas and educational stories with a great sense of humor.

I am also indebted to all my program directors in the international composition program for helping me to evolve into a confident instructor. I am also grateful to all the faculty I have come into contact at Oklahoma State University for sharing their vast knowledge and for their openness.

I owe a heartfelt thank you to all my colleagues at Oklahoma State University who were generous enough to incorporate my surveys into their tight curriculum. Special thanks go to my colleagues and friends who did the same in Hungary, with the additional

administrative burden. Most of all, I would like to thank Dr. Tamás Juhász at Károli Gáspár University for taking most of this work on himself, for helping me arrange the interviews, and also, together with his family, for providing me with a home whenever my duties called for extensive stay in Budapest. My thanks for taking care of my surveys extend to my colleagues Vida Sándorné Balog Katalin and Babóckyné Szőke Edit.

A number of people have made my life in Stillwater amiable. First of all, my gratitude goes to my roommate of 3.5 years, Andrea Behalova, who has put up with my unreasonably bad-tempered ways with marvelous patience, and whose warmth has turned our apartment into a home. Another big thanks goes to the members of the Stillwater Chess Club, most of all to Frank Berry, who has not only provided enormous practical help, but who has also initiated me into American culture and has invited me to his and his wife's home on several occasions. The comradeship of my fellow students in Morrill Hall has meant an immense help not to lose determination in hard times.

Staying in a foreign country for five years without the strong support of friends and family in my home country would have been impossible. I would like to express my deep admiration to all of them for their time and care in staying in touch with me, and for not letting physical distance separate us. The thought of the always warm welcome on my numerous visits brings me to tears.

I dedicate this dissertation to my parents, who have stood behind me all my life beyond reason. Their unconditional love and trust in the face of all my vices make me humble. It is their rare asset of unpretentiousness that I hope to follow. I also dedicate this work to the memory of my only sibling. Attila was the best of brothers for twenty-odd years. I can only hope that I somewhat take after him in his constant search for the new

and better. While the wicked trick of fate that deprived us of his presence stays
incomprehensible, the thought of his pride in this endeavor lends a touch of calmness to
the bitter sorrow.

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CHAPTER 1

INTRODUCTION

This study aims to interest, among others, linguists, psychologists, and anthropologists by connecting cognition to language in a cross-linguistic investigation on the concept of GAME in American English and Hungarian. Specifically, multiple tools of inquiry were employed to find out how this category is organized and how its members are talked about by speakers of these two languages. The basic tenet of the research is that connections may be established between how people perceive this abstract category and how they talk about it. Wittgenstein's words were undoubtedly responsible for motivating the choice of this category:

Consider for example the proceedings that we call "games". I mean board -games, card-games, ball -games, Olympic games, and so on. What is common to them all? - Don't say: "There *must* be something common, or they would not be called 'games'" – but *look and see* whether there is anything common to all. – For if you look at them you will not see something that is common to *all*, but similarities, relationships, and a whole series of them at that. (1953: 1973, p.31e)

Researchers in psychology, linguistics, anthropology, and philosophy have been striving to find out the nature of the processes involved in how people form and structure categories. This study is informed by the advances in psychology and cognitive

linguistics from the 1970s and 1980s, and endorses the view that these two sciences, working hand-in-hand, can vastly contribute to our understanding of human categorization, - a cognitive process which results in considering an entity as a member of a broader group.

In psychology, the beginnings of the refutation of the traditional, Aristotelian view of categorization can be traced back to Ludwig Wittgenstein's meditations from the 1940s. In *Philosophical Investigations*, published after his death in 1951, Wittgenstein (1953: 1973) created the family resemblance theory, which led in the 1970s to the pioneering work of Eleanor Rosch, and the giant breakthrough, prototype theory. Rosch and her colleagues conducted a host of experiments to provide an alternative for the inadequate "necessary and sufficient features" view of categorization. The new theory's main argument is that members of a category show graded structure, which means that not all members are equal in status; some of them are more typical than others, and the boundaries are fuzzy. Studies reveal that prototypes of a category are members that have the most attributes in common with other members of the same category and the least attributes in common with members of other categories (Rosch & Mervis, 1975; Rosch, Mervis, Gray, Johnson & Boyes- Braem, 1976). This speaks to the horizontal axis of a category. The vertical axis, on the other hand, is a taxonomic class inclusion system, ranging from superordinate through basic level to subordinate categories. Prototype effects are most salient in basic level categories: they are the most important in the sense that they carry the most information about a category; this is the level where categories cut into the real world. The prototype view of categorization has motivated a number of cross-cultural studies, mainly on emotions and biological categories. Most of this

research has the double aim of exploring both the structure and the content of certain categories (Herrmann & Raybeck, 1981; Kim & Hupka, 2002; Niedenthal, Auxiette, Nugier, Dalle, Bonin, & Fayol, 2004).

Without a doubt, there are several limitations to the original form of prototype theory. Chief among these are the observations that prototypes are superficial and they underdetermine categories and that graded structure also does not correspond to a mental representation of categories as prototype theory provides a static picture of a category when in fact members' status is variable across subjects, contexts, and occasions (Barsalou, 1985; Hampton, 1979, 1995; McCloskey & Glucksberg, 1978). Nevertheless, at the moment it appears that there is plenty of room within the framework of the theory to address this criticism (Hampton, 1979, 2007; Verbeemen, Vanpaemel, Pattyn, Storms, & Verguts, 2007). Moreover, the theory's tenets can be revamped through contributions from other fields of research. One such field is cognitive linguistics.

The conception of cognitive linguistics, evidenced in printed form, dates back to the late 1970s and early 1980s. The fundamental novelty of this view of language lies in its advocacy of necessary connections between language and thought. In this view, language is not an autonomous faculty; instead, it is connected to other cognitive capacities and during language use the same cognitive processes are at work as during other cognitive tasks. Cognitive linguistics in its most recent form is an empirical framework in that a vital aspect of it is the examination of naturally occurring language use. Perhaps the biggest appeal of examining language in use is that such instances mostly provide data produced throughout the unconscious usage of people's native languages. This, together with the conscious introspection used by researchers in

psychology investigating prototype categories, offers an invaluable means to gain insights into the structure and content of categories. The investigation of human categorization is both an aim and an explanatory tool for cognitive linguists. A pivotal contribution to the prototype view of categorization comes from the linguist George Lakoff. Lakoff (1987) argues that our knowledge is structured by idealized cognitive models (ICMs); category structure and prototype effects are a by-product of these models. The sources of ICMs are cognitive grammar, mental spaces, frame semantics, and the cognitive theory of metaphor and metonymy. According to Lakoff, prototype effects are only one aspect of category formation, as most categories have a central sense, but are extended via chaining and cultural knowledge, resulting in cluster models or radial categories, among others. While all aspects of our linguistic knowledge and competence can be examined through the principles of cognitive linguistics, this study first of all makes use of the notions of frame semantics and the cognitive theory of metaphors.

For cognitive linguists, the investigation of the meaning of lexical items is informed by frame semantics, and its component concepts of domain, scene, and scripts. As Charles Fillmore (1982:2006), the leading figure of frame semantics posits, meanings of words, or concepts, are understood against a whole frame of encyclopedic knowledge. Using one concept evokes the whole frame for a language user. Frame semantics is an empirical approach “emphasizing the continuities, rather than the discontinuities, between language and experience” (Fillmore, 1982:2006, p. 373). The notions of ‘perspective’ and ‘prototypes’ are central to frame semantics. The choice of certain words, and through that of concepts, over others conveys the speaker’s perspective of a

situation. Also, words can be used in a range of contexts so that “the word gives us a category which can be used in many different contexts, this range of contexts determined by the multiple aspects of its prototypical use” (Fillmore 1982:2006, p. 380).

Another huge advance in linguistic theory coming from cognitive linguistics is the cognitive theory of metaphor. According to this view (Lakoff & Johnson 1980, 1999), metaphors are not a matter of language, but of thought. Thus, at the cognitive level, metaphors are conceptual, and the individual instantiations are called metaphorical expressions. The essence of metaphor is to think about something in terms of a different kind of thing; this involves a mapping between a source and a target domain. Abstract concepts are usually structured in terms of a number of other, more concrete concepts. The evidence for the existence of conceptual metaphors is that a number of individual metaphoric expressions make use of the same source domain to describe a target phenomenon.

Central to the conceptual theory of metaphor is the idea of embodiment (Lakoff & Johnson, 1980, 1999), which claims that restrictions and choices for conceptualization, and thus for the use of certain metaphors, is fundamentally influenced by human physiology, that is, by the workings of our bodies. This idea sparked a number of cognitive linguists to conduct cross-linguistic research to investigate whether and to what extent metaphors are universal. The results are not unequivocal. Some researchers contend that as long as metaphors can be traced back to underlying metonymies, they will be universal, since they are connected to either immediate physical experience or some other type of continuity (Kövecses, 2002; Yu, 1995). Yu (1995) examined metaphorical expressions of anger and happiness in English and Chinese. He found the two languages

sharing some conceptual metaphors, with differences in elaboration. At the same time, some of the metaphors can be found in only one of the two languages, which suggests different conceptualization. Kövecses (2002) also studied emotions: he scrutinized eight languages-one of them Hungarian- for their metaphors of anger. His findings parallel those of Yu's; he argues that at the generic level, the metaphor of anger is universal. This is because the concept of anger is tightly connected to human physiology, which leads to embodiment. He too claims that broader cultural context will have an effect on the range and elaboration of metaphorical expressions at the specific level. On the other hand, opposite views assert that metaphors are inseparably tied to culture (Deignan, 2003; Quinn, 1987). Deignan (2003) argues that metaphors are cultural reliquaries, and will therefore differ extensively across cultures. Quinn (1987) on the basis of her discourse analysis of interviews, claims that the concept of marriage in America is shaped by a cultural model and different folk psychologies. Since the conceptual theory of metaphor supposes mappings between two domains, the way people categorize or conceptualize things has a profound effect on the choice of the participating domains. In the other direction, the frequent mappings between domains, and the ways certain languages make it possible to express those mappings, may mold our concepts. As the above summary implies, the relationship between principles governing psychological and linguistic categorization is apparent if we consider that, on the one hand, language offers itself as an obvious means to investigate categorization, and on the other hand, linguistic expressions likely mirror our cognitive mechanisms.

The rationale behind my study is the belief that games are a vital part of every human's life and thus the concept is worth investigating. In spite of this, to my

knowledge, GAME, as a cognitive and linguistic category, has not been explored. This study builds on the proposition that through psycholinguistic and linguistic data, we can delve into people's conscious and unconscious understandings and perceptions about GAME and games. The broad purpose of my investigation is to contribute to existing knowledge on categories. I attempt to pin down the most important similarities and differences between how speakers of American English and Hungarian think, talk, and write about games and what motivates their ways of doing so.

To best achieve this goal, the study comprises several chapters. Chapter 2 familiarizes the reader with the most prominent literature on prototype theory, the cognitive theory of metaphors, and frames and domains. Chapter 3 provides the research questions and overviews the methods employed in this study. A description of data, participants, and data analysis procedures can be found here. Chapter 4 presents and discusses the findings gained through the quantitative tools- the three surveys. Chapter 5 reports on the results of the qualitative analyses, namely, the findings of the interviews, the domain analysis of metaphors, and the frame and domain analysis of chess articles. Finally, Chapter 6 concludes the study by bringing together the findings and discussing the limitations and the implications of the study.

CHAPTER 2

LITERATURE REVIEW

This study attempts to gain insights into cross-linguistic categorization by drawing on research in the fields of psychology and cognitive linguistics. In order to facilitate understanding and to be able to argue for the significance of such an undertaking, I examine relevant theories and studies in this chapter. To that end, I first review issues related to prototype categorization: the theory of prototype categories, the important findings of cross-linguistic studies, previous findings on the category of games and sports, and the methodological issues related to the attributes of members of prototype categories. Second, the cognitive linguistic approaches to certain language phenomena are presented: the frame and domain approaches to word meaning, and the conceptual theory of metaphors.

2. 1. Prototype categories

Human categorization has been a focus of inquiry for philosophers, psychologists and linguists for centuries. The long- ruling traditional Aristotelian view holds that we categorize things based on necessary and sufficient conditions – if things have these conditions, they belong to the category, regardless of their other features. In this view, categories are clear-cut, and there is no middle ground, - a thing either has a feature or not. All members of a category are equal in status. A breakthrough from the Aristotelian view of categorization based on necessary and sufficient conditions came at the

beginning of the 1970s, with the advent of cognitive psychology and linguistics in the form of the theory of prototype categories.

2.1.1. The theory

Prototype theory, for which a harbinger is the Wittgensteinian family resemblance view, sees categories as having graded structure, where some members are typical and others are less typical, based on the number and salience of attributes they have in common with the prototype. Research into the prototype theory of categorization soared during the 70s with the work of psychologist Eleanor Rosch and her colleagues (Rosch, 1973; Rosch, 1975; Rosch & Mervis, 1975; Rosch, Mervis, Gray, Johnson, & Boyes-Braem, 1976). Rosch and her colleagues conducted a host of experiments to determine prototype effects in biological and abstract categories, as well as in categories that are most frequently used in the language. Among their most often investigated categories were BIRD, CLOTHING, CRIME, DISEASE, FISH, FURNITURE, FRUIT, MUSICAL INSTRUMENT, SCIENCE, SPORT, TOOL, TOY, TREE, VEGETABLE, VEHICLE, and WEAPON.

The results of these studies support the idea of the graded structure of categories. This means that membership status in a category can be placed on a continuum from typical to atypical, where the most typical member is the prototype. The results also suggest that prototypes of a category are members that have the most attributes in common with other members of the same category and the least attributes in common with members of other categories. To measure the former, Rosch and her colleagues developed the family resemblance score (FRS), which is a score of a category member based on the number of attributes it shares with other members of the category (for a detailed description of its calculation see the *Working with attributes* subsection, p.33).

Categories are also structured along a vertical axis, which is a taxonomic class inclusion system, ranging from superordinate through basic level to subordinate categories. Prototype effects, which subsume different asymmetries between category members, like the varying degree of typicality, of family resemblance and of naming frequency, are most salient in basic level categories. Basic level categories are the most important in the sense that they carry the most information about a category; this is the level where categories cut into the real world. Rosch et al. (1976) further investigated the basic level, and found that this is the level first learned by children; objects at this level have a perceptible gestalt; also our motor movements follow the same pattern with objects at this level. Principles of prototype categories have been found to hold for such abstract concepts as *love* and *emotion* as well (Fehr & Russell, 1991; Niedenthal et al, 2004). Among the different subtypes of love (e.g. maternal love, romantic love, spiritual love), reaction time to verify category membership was significantly shorter for more typical items, and more typical items were also more unequivocally judged to be genuine cases of love. More typical items were also found to have higher family resemblance scores and share more attributes with the category concept LOVE (Fehr & Russell, 1991). Investigating the French 'ÉMOTION' category, Niedenthal et al. (2004) found more typical items (love, happiness, grief, anger, joy) being judged as category members by a higher percentage of participants than less typical emotions (contentment, hesitation, torpor). More typical emotions were also found to be acquired earlier, even though this finding is obscured by the possible effects of word frequency.

The biggest shortcoming of the classical form of prototype categorization described above is that it provides an unrealistically static, linear picture of categories based on the

typicality of its members, which in turn is accounted for by the degree of similarity of their features. To refine the model, some researchers have attempted to examine and explain the role of features in more detail, while others have considered how different contexts, like occasion or the type of category under investigation might influence categorization. Studies in the first groups usually take the starting point that features of category members need to be compared not to those of other members, but to the category concept. One model that does this is that which distinguishes defining and characteristic features, developed by Smith, Shoben, and Rips (1974). Defining features are those that are essential for category membership whereas characteristic features are more accidental and influence only typicality. In this view, judgments about category membership is a two-stage process, where if an initial holistic estimation, based on a comparison of all the features (defining and characteristic) of the member to those of the category concept is not sufficient, a slower, more deliberate contemplation, based on only the defining features, is needed to make the decision. Even though the authors acknowledge a continuum of definingness, they do see a clear cutting point above which features become defining.

A refutation of and improvement on this model comes from Hampton (1979), who, investigating eight categories, found that even though features could be ranked based on the degree of their definingness, for six of the eight categories no list of defining features could be found. Such a list should unequivocally exclude nonmembers. At the same time, characteristic features, possessed to a greater degree by typical members, were possible to identify. Thus, Hampton's model, called polymorphous concepts, does not differentiate between characteristic and defining features; rather, category membership is contingent

upon the possession of a certain number of category features, some of which are necessary; this condition, nevertheless, is flexible depending on individual variation in setting criteria. Moreover, the extent to which members possess a feature proves to play a role in membership. Hampton's idea is an improvement on prototype theory in that features are elicited in the form of definitions of the category concept (instead of as properties of category members). Researchers also find a host of other quantitative variables related to features that predict typicality, for example the average number of properties listed, the dominance of the superordinate term, and finally, property overlap between the member and the category (Ashcraft, 1978).

The various attempts to account for attributes' roles in category membership and typicality have confirmed Rosch and her colleagues' family resemblance score idea in the sense that a differentiation between defining and characteristic features did not prove effective. At the same time, the fact that there exists a continuum of definingness of features is also considered by the cue validity of attributes in Rosch's studies. On the other hand, as Ashcraft's (1978) findings show, it may be important to elicit properties separately for the category concept and the members rather than only for the category and then have those properties rated on how much they hold for individual members, as Hampton (1979) did. Members may elicit properties that are not thought of when describing the concept. One such property is the category name itself, the elicitation of which may be motivated by the linguistic particulars of a language. These may well influence typicality and membership judgments. Some of the above mentioned studies elicit properties in the form of definitions (even though hedged ones), or with the observation that they may have an "is" "has" "can" or "is a" relationship to the item.

These somewhat forced limitations do not seem warranted if we want to capture the vast web of knowledge represented by concepts.

Prototype theory in its earliest form also does not predict the fuzzy nature of category boundaries, an issue which is also related to context-dependence. Experiments that control for variables of context-dependence, like occasion or the person doing the categorization, have found that natural categories in fact have fuzzy boundaries, in that items with intermediate typicality ratings show both within- and between subject variation with respect to being judged a member or a non-member of a certain category (McCloskey & Glucksberg, 1978). Another variable related to context is the nature of the category under investigation. Taxonomic (e.g., birds) and goal- derived (e.g. what to eat on a slimming diet) categories' graded structure proved to be determined by different variables (Barsalou, 1985). With taxonomic categories, it is central tendency, that is, family resemblance that counts most; however, with goal-derived categories, it is ideals (characteristics an item should have in order to best serve the purpose) and frequency of instantiation that play the bigger role. The study also found that variation in context influences determinants of graded structure within one category, and concludes that category structure is a dynamic construal. Bańcerowski's (2006) attribute list surveys on the image of mother in Hungarian also show that a typical mother is more like an ideal mother than, for example, someone's own mother. The debate about the effects of contexts on categorization is an ongoing one; for example, Hampton, Dubois, and Yeh (2006), examining 24 instances of each of 8 categories under 3 conditions (no-context, technical context, and pragmatic context) overall do not detect significant effects of context.

Other attempts to improve on prototype theory include Barsalou and Hale's (1993) 'frames' as units of knowledge representation. This view allows for attributes to have not only binary (yes/no), but several values, with a weight assigned to them. Moreover, structural invariants exist among attributes; these are structural relations-for example, spatial, temporal, causal- with the help of which features integrate into an entity. They are called invariants as they are relatively stable across exemplars. Rosch (1978) herself recognized the problems with the original version of prototype theory, and attempted to consider effects of context. The connection between cognitive and linguistic categorization is apparent in George Lakoff's work. Lakoff (1987) further extended the notion of prototypes and proposed that our knowledge is structured by idealized cognitive models (ICMs); category structure and prototype effects are a by-product of these models. The sources of ICMs are cognitive grammar, mental spaces, frame semantics, and the cognitive theory of metaphor and metonymy. According to Lakoff, prototype effects are only one factor that influences our category formation; most categories are extended via chaining and cultural knowledge. One example of ICMs is metonymic models, where "one element of the ICM, *B*, may stand for another element *A*" (p.78). In English, for instance, place often stands for the institution. Sometimes a member of a category or a subcategory may also stand for the whole category. Radial structures are one more type of ICMs. These have a central sense, and the other senses are not generated by rules, but via principles of motivated extension. Lakoff's extensive discussion of the radial category of 'mother' is an excellent example of his theory at work. The central case 'mother' roughly means a female who is married to the father, who gave birth and half of her genes to the offspring, and has nurtured it as well.

Variations are, for example, the ‘adoptive mother,’ ‘birth mother,’ or ‘unwed mother.’

These subcategories are conventionalized, vary across cultures, and need to be learned.

Whereas the link between cognitive and linguistic categorization is most apparent in semantics, other areas of linguistics also show prototype effects (a good summary can be found in Taylor, 2003).

In brief, despite its several shortcomings, the prototype view of categorization continues to be a starting point for researchers to fine-tune the theory of human categorization. It is especially so if we respect the disclaimer that the linear graded structure of prototype categories does not constitute a mental representation of those. With rare exceptions, both clear-cut and fuzzy categories have proved to show a lack of defining – necessary and sufficient - features. Nevertheless, the idea of family resemblance determining typicality needs revision as other variables, like property overlap between member and the category, or naming of the category, have also been shown to correlate with typicality. Also, though family resemblance scores consider the degree of the definingness of the features of an item, expressed by their cue validity, it does not account for the extent to which an item possesses those features. This lack probably needs to be redressed. Attempts to dynamize the static picture of prototype categories have involved investigating different contextual effects, which resulted in a number of other variables that contribute to typicality (ideals, frequency of instantiation). Nevertheless, to the present writer it appears that ‘context’ is such a huge category that a more rigorous classification is needed as to which categories show what type of contextual effects. In the meantime, it seems worth finding out more about categories in context-free settings, since the core of those have been confirmed to be relatively stable.

Also, adding context other than between and within subject variation means adding more linguistic description, and thus more concepts, which understandably lead to different results as individual differences in the understanding of those exponentially increase. Apart from introspective investigation, a special kind of context is linguistic use, the contributions of which will be shown in the present study. Models that have tried to account for the mental representation of our knowledge have also relied on the concept of prototypes. As the notion of frames and especially of ICMs show, a thorough theory of the representation of categories involves many types of knowledge, among which culture and language claim as big a role as cognition.

2.1.2. Cross-cultural studies

Cross-cultural research in categorization also expanded from the 1960s with the work of cognitive psychologists. The roots, however, go back much earlier, to what is known today as the Sapir-Whorf hypothesis, or linguistic relativism. Originating in the 18th century from Humboldt, the hypothesis claims that culture, through language, influences the way people think. The main tenets of this view appear in Benjamin Whorf's writings (1927-1941:1956). Whorf maintains that thought is a matter of culture, and within that, of language (1936:1956, p. 65). His primary focus is on differences in both linguistic and behavioral patterns: "It is not so much in these special uses of language as in its constant ways of arranging data and its most ordinary everyday analysis of phenomena that we need to recognize the influence it has on other activities, cultural and personal" (1939:1956, p. 134-135). Whorf investigated such phenomena as number, tense, and the conceptualization of time, considering metaphors as well. His famous example connects the Hopi tense system to their habitual behavior

that emphasizes preparation to their culture grounded on repetition. Another characteristic thought that sums up Whorf's view states that "We are thus introduced to a new principle of relativity, which holds that all observers are not led by the same physical evidence to the same picture of the universe, unless their linguistic backgrounds are similar, or can in some way be calibrated" (1940:1956, p. 214). As he elaborates later, this means that people whose languages' grammars differ will make different obligatory observations about the world and so also will view the world differently (1940:1956, p. 221). Apart from the formulation of linguistic relativism, Whorf may be considered an early champion of linguistic research as he strongly advocated a detailed description of languages through empirical investigation and also, passionately maintained the view that there is no primitive language. Also, his views parallel those of Lakoff's in the sense that both linguists deny that humans would perceive a metaphysical world that exists "out there" objectively.

Whorf's views, later dubbed the Sapir-Whorf or the Whorfian hypothesis, became known as having a strong and a weak version, with the strong version positing that language determines thought, and the weak version stating that language influences it. Both versions of the hypothesis ignited a range of research into cross-cultural linguistic and cognitive categorization. The first half of the 20th century generally subscribed to linguistic relativism. Psycholinguistics brought with it an orientation towards universals in human cognition and a focus on individual cognition versus socially shared cognition, which led to an anti-relativist stance. Nowadays, more subtle questions are asked about the aspects and the extent to which categories show cross-cultural variation.

An illustrative case for the different directions regarding cross-cultural categorization is the research on color terms. Early relativistic views, which opposed the existence of semantic universals, were replaced by a focus on universal tendencies in color naming, among them the existence of focal colors and the universal ordering of basic color terms. The anthropological work of Berlin and Kay (1969), who studied 20 languages, found that in the case of basic color terms, while boundaries show cross-cultural variation, there is big agreement as to what constitutes a good example of those colors. These best examples are called focal colors. As to basic color terms, Berlin and Kay found evidence for eleven basic color terms. Moreover, they posit that what color terms a language will have is not arbitrary. Rather, these color terms form a hierarchy: if a language has only two color terms, these will be unequivocally white and black, the third color is always red, the fourth, yellow or green, and so on. Berlin and Kay acknowledge the existence of special cases, for example, Hungarian having 12 basic color terms, or some languages not following the evolutionary order of color terms. Nevertheless, their findings seem robust enough to them to call them universals. Psychological research has mainly verified these findings. It has been shown that speakers of languages that have only two color terms learn and remember focal colors of basic color terms more easily than non-focal terms and also that the structure of color naming does not influence the structure of color memory (Heider, 1972; Heider & Olivier, 1972). Evidence for Berlin and Kay's (1969) eleven basic color inventory, however, is not supported by other researchers (Heider, 1972; Paramei, 2005). Later research also challenges the universalist findings on the prominence and effect of focal colors on cognition. Influences of differences in color vocabulary on color perception

have been detected (Kay & Kempton, 1984; Roberson, Davidoff, & Davies; 2000).

Roberson, Davidoff, and Davies also find categorical perception effects at the boundaries of existing categories. As Kay and Regier (2006) summarize, nowadays the questions of interest are more subtle than the “traditional ‘universals versus relativity’ framing, which collapses important distinctions” (p. 53).

The line of research on number concepts parallels that of color in its attempt to find evidence to support or refute a formulation of the Whorfian hypothesis. Working with the Pirahã tribe, whose language provides words for the concepts of one and two, any other number being denoted by ‘many,’ Gordon (2004) concludes that this lack of vocabulary clearly results in a poor performance on tasks involving quantities greater than three, and sees evidence for the strong version of the hypothesis, linguistic determinism. An interesting additional finding is that for the Pirahã, ONE is a prototype category, its most typical member being the number 1. A similar study with the Mundurukú, who have number words up to 5, has shown that members of this group perform well in tasks with approximate quantities well beyond 5, but poorly with exact quantities over 5 (Pica, Lemer, Izard, & Dehaene, 2004). The authors thus refute Gordon’s (2004) claim and contend that language’s role in numerical ability is restricted to exact quantities.

Thus, cross-cultural research on number discovers prototype structure even in the intuitively clear-cut category of ONE in cultures where the number category has a low membership. Moreover, cross-cultural research on color categorization confirms the results of studies that find a stable core for prototype categories with the addition that with colors, best examples appear to hold across different cultures. This, as well as the

finding of at least some order in the evolution of color naming, supports the view that humans do not arbitrarily categorize their surroundings; rather, their creation of categories is influenced by their biology. This idea becomes full-fledged in George Lakoff's (1987) idea of embodiment.

Whereas research on basic categories like color or number is undoubtedly compelling, cross-linguistic research on grammatical categories is held to provide more reliable proof for views on linguistic relativism. One example is that of the counterfactual in English and Chinese. Claims of the Chinese language lacking such easy ways of expressing counterfactual thought as the subjunctive in English have led to the hypothesis that speakers of Chinese may have a disposition to think less counterfactually. Bloom (1981) found amazingly strong evidence for this hypothesis by using English counterfactual stories and their Chinese translations. After reading the stories, participants either had to answer questions or choose a sentence that best described the content of the story. Bloom's results show that Chinese speakers often make erroneous judgments of the truth conditions of these stories, which suggests that they have difficulty remaining in the counterfactual realm for a long time. Au (1983, 1984), however, strongly criticizes Bloom's methods and argues that his Chinese stories lack sufficient idiomaticity, which might have been a factor contributing to his striking results. Replicating Bloom's studies with more authentic Chinese texts, Au refuted his findings. A finer approach to the question of Chinese and English counterfactuals is manifested in research that considers effects of culture beyond those of language. Chen, Chiu, Roese, Tam, & Lau (2006), investigating the generation of counterfactuals in the domains of schoolwork, romantic relationships, family relationships, friendships, and life in general,

assert that in addition to the general tendency to produce more additive than subtractive counterfactuals in both populations, cultural influence on the conceptualization of schoolwork and family stimulate Chinese speakers to produce more subtractive counterfactuals in these areas than their American counterparts. These studies encourage the conviction that culture is an indispensable element of cross-linguistic studies wishing to draw conclusions about cognition through linguistic phenomena or vice versa. Idiomaticity, as well as the conceptualization of different aspects of life, are all parts of culture that will influence our linguistic choices.

Studies involving bilingual speakers can greatly contribute to the issue of the dominance of language versus culture in categorization. Lawson, Smadi, and Tel (1986) conducted a study on Jordanian bilingual (Arabic- English) students in Jordan. They wanted to find out whether participants' value judgment of a concept is dependent or independent of the language. Their study involves twenty-six content concepts (e.g. 'money,' 'marriage,' 'alcohol,' 'danger,' 'pain,' all thought to be of interest to the participants), and six reference concepts (good, bad, strong, weak, active, passive), which were to assess the dimensions of evaluation, potency, and activity. Each concept was rated on nine subscales. A test-retest method, with all four combinations of the two languages (Arabic-Arabic, Arabic-English, English- Arabic, and English- English), yielded evidence that evaluation of concepts is independent of the language and is regulated more by culture. A similar study was carried out by Ji, Zhang, and Nisbett (2004) on bilingual Chinese and European Americans. Their rationale for choosing these populations is the argument that oriental people are more likely to categorize objects thematically (holistically), whereas western cultures categorize taxonomically

(analytically). Their study involved Mainland Chinese in China and the United States, Hong Kong and Singapore Chinese in the United States, and European Americans. Their findings support the opinion that, even though the two interplay, culture has a bigger influence on judging concepts than language: Chinese living in China would readily categorize relationally, and only to a slightly lesser extent than if tested in English. Mainland Chinese living in the States categorize relationally in Chinese, but taxonomically in English. Hong Kong and Singapore Chinese categorize relationally regardless of language. European Americans categorize unequivocally taxonomically. These studies seem to modify the Whorfian hypothesis to the extent that the role of culture intensifies and the role of language lessens in the culture, language, cognition triangle. In this respect, studies that examine the same bilingual population in two settings are especially telling. Whereas the above mentioned study of Ji, Zhang, and Nisbett (2004) examines manner of categorization, it would be of interest to investigate category content with these kinds of population. However, when drawing conclusions, this research needs to consider the caveat that bilinguals may use their two languages in different settings, which may mask their true effects.

A small portion of cross-cultural research regards the determinants of typicality in cross-cultural categorization. Hampton and Gardiner (1983), investigating correlations of twelve categories between American and British normative data, found that correlations for typicality were higher than for production frequency, from which they concluded that the former is less influenced by culture and language than the latter. It is interesting here that people of both cultures speak a variant of the same language- British versus American English; nevertheless, the authors see “local differences in language use and

item familiarity” (p. 498) as a possible source of variation. Apart from these variables, variation in categorization between cultures is also attributable to a difference in cultural prototypes, which are the prototypical exemplars of a category in a given culture (Schwanenflugel, Blount, & Lin, 1991). In a study with monolingual American English and Spanish speakers, graded structure was found to be influenced by a difference in category prototypes; in turn, category prototypes were influenced by familiarity (Schwanenflugel & Rey, 1986).

As the above summary suggests, cross-cultural research on categorization involves a wide array of subtopics, from the investigation of different forms of the Whorfian hypothesis through category content and structure to the effects of culture and language on categorization. Studies on color categorization reconfirmed a stable core for prototype categories across languages. With this perceptual category, the content of this core also shows huge cross-cultural similarities. However, as we move to categories that involve more language, results are more varied concerning category prototypes and thus graded members. This is true even in the case of varieties of the same language, like American and British English. With such a loaded variable as culture, the soundness of methodology, or at least the assurance of replicability, is of uttermost importance. Studies with bilingual participants are likely to be more reliable if experiments were conducted in both countries. Even so, which language is used in which areas of life may also influence categorization in bilinguals.

2.1.3. Previous associative frequency and typicality findings on the category of GAME and SPORT

Investigations into the categories of GAME and SPORT have mainly been subsumed within studies examining a host of categories. Whereas inquiry into the content and structure of prototype categories dates only to the early 1970s, general investigation into category norms started in the late 1950s. The category of GAME is somewhat underrepresented in this quest, probably because of its huge size. On the other hand, SPORT, a subcategory of games, has been thoroughly studied in the United States. Although the earliest studies on category norms were not yet motivated by the prototype view of categorization, their findings often serve as a basis for item inclusion in later studies or as correlational data between elicitation frequency and typicality. First, the methodologies and main findings of the category norm studies, followed by those of the studies of typicality ratings are discussed, and the results of the category SPORT/GAME are also presented as the content of these are of some interest for the present study.

The earliest study on category norms is that of Cohen, Bousfield, and Whitmarsh (1957). They chose 43 categories for which they thought a large number of instances should be produced, and elicited norms by asking participants to name four representative members that are nouns and are specific in character as quickly as they could. The authors display frequencies separately for males and females but do not provide any correlations. This study motivated that of Battig and Montague (1969), who added 13 new categories to the 43 in the previous study. However, they did not limit the number of responses but gave participants exactly 30 seconds to list as many members for each category as they could in the order they occurred to them. Not limiting the number of

responses makes it possible to gather data on the size of the category by calculating the average number of items mentioned. The authors added an extra tool to measure category size by asking a group of different participants to rate on a 7-point scale the number of items they thought they could name as belonging to the category if they had to. On this scale, 1 meant none, 4 meant average, and 7, very many. An important finding of theirs is the high correlation of production frequencies for all responses between their two samples from Illinois and Maryland. Also, the mean rank of each response correlated highly with frequency in small size categories with dominant members. To consider category size, or 'meaningfulness,' Hunt and Hodge (1971) also asked their participants to do the 7-point scale rating of Battig and Montague (1969). However, their 84 category names were not presented as such, but as simple words, and participants were just asked to judge the number of things or ideas associated with them. In the next session, the same participants listed four items for each category. A correlation of .89 was found between the item frequencies of the two studies. This is lower than the correlation between the two populations in the Battig and Montague (1969) study (.96), but still considered big enough by the authors to conclude that limiting the number of items to be listed is justified. In a similar way, Loess, Brown, and Campbell (1969) also restricted their participants to list four items of 30 categories. The authors ran a number of rank-order correlations on the most frequent 36 words of each category. For the category SPORTS, a correlation of .73 was found between these data and that of Cohen, Bousfield, and Whitmarsh (1957). This is a relatively low figure compared to other categories. The correlation of .79 between males and females in this category is also in the lowest third of the 30 categories. On the other hand, correlation between unweighted and weighted totals

(based on the position of the item within the four items named by each person) for all categories was .93 and up. At the same time, correlations between dominant response and weighted total were consistently higher than between dominant response and unweighted total. These studies show the huge interest taken in category structure even before the advent of prototype theory. Researchers, through establishing correlations between category size and associative frequency, and order of response and dominant response, had already detected signs of graded membership at this early date.

A different aim was pursued by Shapiro & Palermo (1970), who set out to elicit norms for 100 categories other than the ones in previous studies. Their categories were more specialized, for example, A CITRUS FRUIT, or A SPORT PLAYED WITH A BALL. Participants in this study were also asked to name four nouns that name representative, specific members of each category. The authors break down the response frequencies by sex, but do not provide any correlations.

Stepping outside of the United States, we find category norms for SPORT in Great Britain (Hampton & Gardiner, 1983). This study, already concerned with the prototype theory, used three measures, production frequency, typicality ratings, and familiarity to discuss category structure, investigating 12 categories. Participants first rated between 34- 55 items for each category, where items were chosen so that they would cover the range of goodness-of-example. For SPORTS, for example, items range from *soccer* and *rugby* though *volleyball* and *rowing* to *hunting* and *dancing*. The researchers employed a six-point scale, where number 6 was reserved for the occasion if the participant thought the item did not belong to the category at all. Moreover, the meanings of 1 and 5 were explained. Familiarity of the same items (within the context of other items) was again

rated from 1 to 6, 1 meaning very familiar, 5, very unfamiliar, and 6, unknown. Finally, in the associative frequency task, participants were given 1 minute to list as many items as they could that belonged to the category. For the 12 categories, they found that associative frequency had a mean correlation of .76 with the Battig and Montague (1969) norms. SPORT had a mean correlation of .53 (second lowest). For typicality, the correlation of the 8 categories also analyzed by Rosch (1975, see below) was .85; for SPORTS, it was .80 (again, second lowest). The difference between the two measures of correlation is significant and is explained by associative frequency reflecting cultural differences to a bigger extent because of being more influenced by language differences and item familiarity. From the three measures within this study, typicality and associative frequency were the most correlated. Familiarity did not prove to play a substantial role in determining category structure. The following two tables (Table 2.1 and Table 2.2) are a compilation of the results concerning the categories SPORT and GAME in the above discussed studies, and allow a comparison of the individual items.

The results of studies that elicited items in the category SPORT in the United States are presented in Table 2.1. If accessible, the scores of *badminton* and *chess* are also displayed as these items were included in my study on the category of games. Table 2.2 shows elicited items for the category A SPORT PLAYED WITH A BALL in the USA (column E); category norms for SPORT in Great Britain (column F) and finally, category norms for GAME in the United States (column G). The two tables imply that normative data for the category SPORT remained relatively stable over the examined time period and also over different regions of the United States if we examine the extent of overlap in the first eight sports at the top. Nevertheless, some interesting changes may be observed, for example

the movement of *soccer* up and down (it was #9 in Hunt & Hodge, 1971, and so did not make it to Table 2.1), or the variations in the order of the first three items, as well as *track*'s advance. The top rankings of the category SPORT highly overlap with the subcategory A SPORT PLAYED WITH A BALL, with the obvious exception of *swimming*. The four most often highest ranked sports (*football*, *baseball*, *basketball*, *tennis*) also make it to the top ten of the GAME category. On the other hand, the tables also reveal a significant cross-cultural difference between the United States and Great Britain in the elicitation frequencies in the category of SPORT (compare column F to columns A-D), some of which are probably a sign of cultural differences, like the absence of *football* and *baseball* from the British list, or *basketball*'s lower rating. Hampton and Gardiner (1983) also speculate that differences in associative frequencies across categories may reflect variation in language use but unfortunately do not further elaborate on this point.

Table 2.1. Category norms for SPORT in the USA (columns A-D) with the items' ranks and the number of participants who listed them

A SPORT Cohen, Bousfield, & Whitmarsh (1957); Connecticut, USA <i>n</i> = 400; 4 items /participant named	B SPORT Battig & Montague (1969); Maryland & Illinois, USA ; <i>n</i> = 442; no limit on item #	C SPORT Loess, Brown, & Campbell (1969); Ohio, USA ; <i>n</i> = 256; 4 items/ Participant named	D SPORT Hunt & Hodge (1971); Georgia, USA ; <i>n</i> = 400; 4 items/ participant named
1. baseball 288	1. football 393	1. football 180	1. football 345
2. football 276	2. baseball 376	2. basketball 165	2. baseball 291
3. basketball 216	3. basketball 360	3. baseball 132	3. basketball 242
4. tennis 186	4. tennis 329	4. tennis 105	4. tennis 169
5. swimming 127	5. swimming 277	5. soccer 77	5. golf 101
6. golf 94	6. soccer 160	6. swimming 68	6. swimming 89
7. hockey 74	7. golf 153	7.5. golf 36	7. track 62
8. soccer 60	8. hockey 130	7.5 hockey 36	8. hockey 43
13. badminton 15	11. badminton 96	14. badminton 9	25-27 badminton 4
chess 0	41. chess 9	43. chess 1	43-74 chess 1

Table 2.2. Category norms for A SPORT PLAYED WITH A BALL in the USA (column E), for SPORTS in Great Britain (Column F), and for GAME in the USA (column G) with the items' ranks and the number of participants who listed them

E A SPORT PLAYED WITH A BALL Shapiro & Palermo (1970); Pennsylvania, USA; <i>n</i> =200; 4 items/participant named	F SPORT Hampton & Gardiner (1983); London, Great Britain ; <i>n</i> = 72; No limit on item #	G GAME Hunt & Hodge (1971); Georgia, USA ; <i>n</i> = 400; 4 items/participant named
1. football 178	1. tennis 53	1. football 160
2. baseball 176	2. swimming 49	2. baseball 133
3. basketball 140	3. rugby 47	3. monopoly 122
4. soccer 82	4. hockey 45	4. basketball 105
5. tennis 65	5. squash 42	5. tennis 88
6. volleyball 38	6. badminton 41	6. bridge 70
7. handball 27	7 running 19	7.5 chess 63
8. lacrosse 23	8 basketball 19	7.5 poker 63
9. golf 18	9. golf 17	9. checkers 53
10. softball 10	10. riding 17	10. cards 42

The second group of studies investigates typicality ratings of elicited items as members of a category. For inclusion in the list of items rated for typicality, many of these studies (Rosch, 1973, 1975; Uyeda & Mandler, 1980) rely on the data yielded by Battig and Montague (1969) and items are chosen so that they cover a wide range of associative frequency. Rosch (1973) had her participants rate six items of eight categories on a seven-point scale as to their goodness-of-example. One of the main findings was that the highest mean rated items were usually given the score 1 –most typical- by most participants. Interestingly, *wrestling* as a sport showed a chance distribution with a wide variety of ratings. The study also found a high correlation between the ranking of items on their goodness-of-example ratings and their rank in the normative data of Battig and Montague (1969). To test whether subjects were rating items based on their individual liking, Rosch ran a subsequent survey with different subjects that asked them to rate the items on how much they liked them. The results were substantially different from those of the typicality rating and showed a greater chance distribution. An additional judgment of category membership task found shorter reaction times for central than for peripheral

members. In a subsequent study, Rosch (1975) investigated the structure and content of semantic categories and their mental representation. Participants rated 50-60 items of 10 categories on their goodness-of-example on a 7-point scale by putting a number from 1 to 7 in the blank following the item's name. The meanings of 1, 4, and 7 were explained in the instructions; moreover, participants were given examples and they were warned that the ratings should not be based on how much they liked the item. Just like the previous study, this one also showed a high agreement (95%) between subjects as to the rating of the best example in 9 of the 10 categories. The rank order of items which were included in both studies was also identical. Moreover, a high correlation between the answers of students who had lived mainly in the east versus the west coast was found. A larger number of categories (28) with concrete items was investigated by Uyeda and Mandler (1980), using the first 30 items generated by participants in the Battig and Montague (1969) study. Participants gave goodness-of-example ratings on a 7-point scale. Results show an overall high reliability between their typicality ratings and those in Rosch's (1975) study (mean Pearson $r = .887$, mean Spearman $r = .867$). At the same time, the correlation between these ratings and the production frequencies of Battig and Montague (1969) is only moderate (Spearman $r = .546$). Table 2.3 shows ranks and mean ratings of items in the category SPORT in the studies described above, with the addition of the British results (Hampton & Gardiner, 1983, see description of the study among the associative frequency studies).

Table 2.3. Mean ratings of items in the category SPORT

Rosch (1973); CA, USA ; 7-point scale; 1 = most typical; <i>n</i> = 113; 6 items rated	Rosch (1975); CA, USA ; 7- point scale, 1=most typical; <i>n</i> = 209; 60 items rated	Uyeda & Mandler (1980); CA, USA ; 7-point scale; 1= most typical; <i>n</i> = 50; first 30 items of the Battig & Montague (1969) norms rated	Hampton & Gardiner (1983); London, Great Britain ; <i>n</i> = 45; 6-point scale; 1 =most typical; 48 items rated
1 football 1.2	1. football 1.03	1. basketball 1.28	1. soccer 1.00
2. hockey 1.8	2. baseball 1.05	2. baseball 1.40	2. rugby 1.00
3. wrestling 3.0	3. basketball 1.12	3. football 1.48	3. tennis 1.022
4. archery 3.9	4. tennis 1.15	4. tennis 1.72	4. badminton 1.133
5. gymnastics 2.6	5. softball 1.29	5. soccer 1.74	5. basketball 1.178
6. weight lifting 4.7	6. canoeing 1.41	6. volleyball 1.78	6. hockey 1.20
	7. handball 1.42	7. softball 2.02	7. squash 1.267
	8. rugby 1.43	8. hockey 2.16	8. swimming 1.40
	17. golf 1.77	9. track 2.18	9. baseball 1.523
	24.5 badminton 2.08	17. badminton 3.12	10. running 1.556
	54.5 chess 5.07	20. golf 3.62	11. golf 1.733

A different method to elicit typicality ratings was employed in a study by Hampton (1988), aiming to investigate category conjunctions. In a specific investigation on the categories of SPORTS and GAMES, participants first judged if the item belonged to the category. If yes, degree of typicality was indicated in a scale from 1 to 3 (very typical). If the item was decided not to be a member, a rating between - 1 and - 3 (unrelated) was given to show the degree of nonmember relatedness. Zero was reserved for being unable to decide on membership. 55 items were judged in the four categories of SPORT, GAME, SPORTS WHICH ARE GAMES, and GAMES WHICH ARE SPORTS. Results show that if an item was a sport but not a game, it was more likely to get into the GAMES WHICH ARE SPORTS conjunction than into the SPORTS WHICH ARE GAMES conjunction. With items that are games but not sports, the results are less clear. Another remarkable finding was that more than half (54%) of the sports that were not games were still

included in the conjunction of the two categories (for example, *javelin*, *fishing*, *judo*) and the same is true for 25% of the games that were not sports (*bar-billiards*, *chess*, *dominoes*). Also, sports has a bigger weight in determining typicality of members in both conjunctions ‘sports that are also games’ and ‘games that are also sports’. This means that if an item was rated high as a sport but low as a game, it was still more likely to be rated high in the conjunctions than it if was a low-sport, high- game item. Individual findings include probabilities of *chess* being rated as a game was .94 and 1.00. *Golf*’s probability of being rated as game was .87, and *Monopoly*’s, 1.00.

In short, investigation into the category of GAME is somewhat scarce, especially in comparison to the category of SPORT. At the same time, with both categories, interest is split between content and structure, but favors the latter to some extent, especially if we consider that it is practically impossible to say anything about structure without content. This inclination, however, is understandable in light of the search for evidence to support the new theory of categorization. Correlations in both types of studies are usually high between populations surveyed at the same time or close in time. However, as the time gap gets bigger, correlations tend to dwindle and they also show more variation cross-culturally. Correlations for the category SPORT are usually below the average of all categories. These variations suggest that, as Hampton and Gardiner (1983) observe, eliciting both types of information from members of the same population is warranted. Therefore, the present study elicited associative frequency and typicality ratings from both the American and the Hungarian populations roughly at the same time, within a 1.5-year period. Because of the suspected huge size of the category, and because of a quest for the most possible information, participants were not restricted as to the number of

items to be listed. Items were ranked only based on their frequency, and were not weighted as to their position. This was so because, even though the benefits of having both the weighted and unweighted frequencies are recognized, the primary aim of this study is a cross-cultural comparison, for which a limited number of within-language statistics is sufficient. Typicality ratings followed the most standard format, the 7-point scale, with an explanation of the meaning of 1 and 7, where 1 subsumed “very bad example for a game” and “does not belong to the category.” Thus, participants were not forced to make an outright category membership decision as, again, testing theories of category representation was not the focus of this study.

2.1.4. Working with attributes

One of the important claims of prototype theory is that items vary in their typicality based on the number of attributes they share with other members of the same category. Therefore, eliciting and scoring attributes and evaluating items based on their attributes are of utmost importance. First, issues concerning this process will be presented, and a description of the few studies that actually display attributes associated with sports and games will follow.

Most often, properties are elicited by asking participants to list attributes of an item displayed at the top of a page (Rosch & Mervis, 1975; Rosch, Mervis, Gray, Johnson, & Boyes-Braem, 1976). Sometimes instructions allow for phrases, not just single words; also, participants may be urged not to free-associate. Usually, between 1.5-3 minutes per item are given. Hampton (1987) emphasized that attributes, and not examples, were to be listed, and also, that these attributes should constitute a definition of the item. He also urged participants to list at least 10 attributes. Hampton (1979)

conducted and audio-taped one-hour structured interviews with specific questions to elicit features as definitions of category concepts. Fehr & Russell (1991) also provided a number of questions to elicit descriptions of feelings and acts related to different types of love.

Determining the significance of features in a huge list is usually done by reducing it to a master list by means of getting rid of the most insignificant features, which are those produced by a small percentage of participants (Fehr & Russell, 1991; Hampton, 1979, 1987; McNamara & Sternberg, 1983). Often, judges are also asked to rate properties' significance, which thus can be rank-ordered (Hampton, 1979, 1987) according to their definingness. Judges may also delete features or add features to an item listed for another one (Rosch & Mervis, 1975). The final number of the attributes researchers work with varies between about eight to about thirty-five. The importance of attributes in the formation of a concept is a variable that is acknowledged in the calculation of family resemblance scores (FRSs). Family resemblance scores are a standard method of establishing similarity among members of a category. They are calculated following the method of Rosch and Mervis (1975): a master-list of attributes is created by listing all the attributes mentioned for at least two items. Each attribute has a cue validity equaling to the number of items it is listed for. Attributes are thus weighted depending on how much they are shared among the members of the category. The FRS of an item is the sum of the weighted scores (cue validity) of each attribute it was credited with.

Another concern about attributes is to decide to what extent an item possesses those features that have survived the curtailing process. Hampton (1979) shows that this

factor plays a role in category membership judgments. He again used judges to decide to what extent an item possessed a feature of the category concept (Hampton, 1981).

Attributes themselves may be assigned a score depending on the number of participants that list them as well as on their position in the list of attributes (Szalay & Deese, 1978; Kim & Hupka, 2002). This method calculates an attribute's score in such a way that every time an attribute is listed in the first place, it gets a score of 6; for the second place, it gets a score of 5; for the third, a score of 4; for places four to seven, a score of 3; places eight and nine are worth 2 points, whereas places ten and eleven, 1 point each. Adding up these numbers results in an attribute's final score. Based on this score, attributes can be rank-ordered according to the role they play in the conception of a category/concept.

Attributes of sports and games were investigated by Hampton in a series of studies in Great Britain (Hampton, 1979, 1987, 1988). In his 1979 study, devised to test whether a sensible distinction can be drawn between defining and characteristic features, participants provided features of eight categories as hedged definitions or descriptions given to a number of questions designed to force explanations why certain properties are or are not necessary (for more details on methodology, see above. For general findings, see section 2.1.1, p. 11, of the Literature review). Investigating how attributes are inherited for the conjunction of categories, e.g., 'sports that are games', Hampton (1987) had participants list ten defining attributes for 12 categories and their conjunctions. His main findings include that attributes will hold for the conjunction if they have a high mean importance across the two constituent categories. Also, concepts pass on the criterion of an attribute's necessity or impossibility. The fact that the conjunction

category would have emergent attributes verifies the non- compositionality of these types of categories. Table 2.4 below contains the lists of the most important attributes of these categories and their conjunctions (ranking is based on attributes' production frequency; if those were equal, their mean rating decided). The words 'involves', 'is a', 'has', and 'uses' were omitted. Other minor modifications in wording include changing 'is not a solitary activity' to 'not solitary.'

Table 2.4. Attribute lists in decreasing order of importance for the categories SPORTS, GAMES, and their conjunctions

Rank	SPORT Hampton (1979)	SPORT Hampton (1987)	GAME Hampton (1987)	SPORTS THAT ARE ALSO GAMES (Hampton 1987)	GAMES THAT ARE ALSO SPORTS (Hampton 1987)
1	physical, connected with the body	fun or enjoyment	fun	teams	physical activity
2	human activity	two or more people	mental concentration	competition	teams
3	pastime	skills	goal	two or more people	rules
4	competitive	done professionally for money	recreational	physical activity	competition
5	physical exertion	physical activity	rules	spectators	equipment
6	enjoyed	physical exercise exertion	skills	rules	physical exercise
7	not solitary	spectators	not serious goal	physical exercise, exertion	fun
8	teams	for health	two or more people	mental concentration	athletic ability
9	spectators	rules	physical activity	goal	skills
10	physical skill	recreational pastime	physical exercise exertion	fun or enjoyment	spectators
11	rules	competition	competition	referee	two or more people

Looking at the table, we find that the importance of attributes, as expressed in their production frequency, has substantially changed between the two dates of 1979 and 1987 in Great Britain. It is hard to draw firm conclusions from this, as the elicitation technique was somewhat different in the two studies (see above). Examining only the results of the 1987 study, interestingly, we find emerging attributes- attributes that are not

among the most important ones for either category- in the conjunction categories ('teams' is the most conspicuous). Attributes that are important for each category and also make it to the conjunctions are 'competition,' 'fun,' and 'rules.' 'Mental concentration' and 'goal' are important attributes only of GAME, and they also make it to one of the conjunctions, though losing in importance. 'Spectator' is an only-SPORT attribute that makes it to both conjunctions. At the same time, a number of attributes, more important for SPORT, get into the conjunctions ('two or more people', 'physical activity', 'physical exercise'). This attests to the bigger role SPORTS play in the conjunction category, statistically verified by Hampton (1987, 1988).

To conclude, determining the role of attributes in items' typicality has been a major topic in studies conducted within the framework of prototype theory. Methods to elicit attributes vary depending on the category or the purposes of the study. Studies aimed at establishing family resemblance usually do not restrict participants in any way other than not to free-associate; on the other hand, studies concerned about the nature of features are more specific, asking for definition-type attributes. Most studies also consider the degree to which an item possesses a feature, which has been shown to play a role in category structure. This practice can also be considered as accommodating both the feature based and the network based models of knowledge representation, as the strength of the connection between nodes may be influenced not only by the sheer existence of a feature, but also by the weight of them. The present study gave participants a relatively free hand in coming up with attributes, the only restriction being a request to not just free associate. The reason for giving this freedom was the hypothesis that a definition-type description or features deduced from answers given to specific questions

could probably disguise important information because of the category type. Also, among the tested measures was family resemblance á la Rosch, which calls for non-restriction. To calculate average number of properties listed and property overlap between the category and an item, all non-idiosyncratic attributes were considered. This is standard practice, although, admittedly it is a somewhat arbitrary decision. Finally, attributes for each item and the category were scored and rank-ordered following the method described above (Szalay & Deese, 1978; Kim & Hupka, 2002). Discussions were based on the first 15-18 attributes for each item. This number was deemed sufficient as it mostly covered all attributes listed at least by 5 (sometimes even fewer) participants of the 40-46. Judges were not used at any stage as it was not desirable for the nature of the study.

2. 2. Cognitive linguistics

Cognitive linguistics, a relatively new way of thinking about language, situates itself as an opposition to formal semantics and generative grammar. With its strong ties to psychology and human cognition, cognitive linguistics posits that our linguistic capacity is not an autonomous cognitive faculty; rather, it is interrelated with other cognitive processes and thus cannot be investigated in isolation. As Croft and Cruse (2004) observe, “The representation of linguistic knowledge is essentially the same as the representation of other conceptual structures, and [...] the processes in which that knowledge is used are not fundamentally different from cognitive abilities that human beings use outside the domain of language” (p. 2). It is important to note here that this view does not reject the existence of an innate linguistic capacity. Another basic tenet of cognitive linguistics is that grammar is conceptualization, which results in a belief in a

strong connection between syntactic form and meaning. That is, each and every different way of saying something expresses a different way of thinking about the same thing. Moreover, our thinking gets expressed in dynamic construals, created on the spot to show how we comprehend a certain thing at the time of using language. Thus, methodologically, for cognitive linguists, the unit of analysis is more a whole expression, or construction, rather than a single word. A weak point in the methodology of early research conducted by cognitive linguists was the extensive use of introspection, which is in fact contradicting the approach's emphasis on empirical evidence and language in use (Gibbs, 2006). Lately, cognitive linguists have been more and more making use of authentic texts and large corpora to support their descriptions. This study made use of cognitive linguistic approaches to word meaning and to metaphor, as both have considerably expanded our knowledge on human categorization. The next sections will discuss these approaches and their relation to categorization.

2.2.1. Frames and domains

In the investigation of the meaning of lexical items, the breakthrough of cognitive linguistics assumed shape in the form of frame semantics, which later evolved into slightly different focuses, like domains, scripts, and spaces. Frame semantics constitutes a challenge and alternative to lexical semantics, and is an empirical approach which is more able to explain phenomena that arise from language in use. The theory originates from the 1980s with the foundational contemplations of Charles Fillmore (1982:2006). In the frame approach, lexical items, or concepts, are parts of a whole frame, and their meaning is constructed based on our knowledge of the frame and the intricate web of connections between frames. A lexical entry provides access to every member of the

whole underlying frame, even if not each is explicitly expressed. As Fillmore (1982:2006) puts it,

By the term ‘frame’ I have in mind any system of concepts related in such a way that to understand any one of them you have to understand the whole structure in which it fits; when one of the things in such a structure is introduced into a text, or into a conversation, all of the others are automatically made available (Fillmore, 1982:2006, p.373).

Moreover, which elements of the frame are explicitly expressed depends on the language producers’ perspective on the situation. The concept of prototype is also important for frame semantics. It is the prototypical use of a word that determines the contexts in which it can be used. Frame semantics puts emphasis on encyclopedic knowledge as opposed to a dictionary-type semantic and syntactic knowledge of words (even though Fillmore himself does not fully subscribe to this binary opposition). As another foundational person in cognitive linguistics, Langacker (1987) explains, “The distinction between semantics and pragmatics (or between linguistic and extralinguistic knowledge) is largely artifactual, and the only viable conception of linguistic semantics is one that avoids such false dichotomies and is consequently **encyclopedic** in nature” (p. 154). This is not to say that all our knowledge related to a concept has equal status; different aspects of it are graded as to their centrality. In turn, centrality of a specification is influenced by its conventionality, and the extent to which it is generic, intrinsic, and characteristic. Encyclopedic knowledge is stored in a network, and any given entity is a “point of access” (p.163) to this network. Depending on the context, activation spreads in certain directions from this “access node” (p.163). “Frames” are one term for the unit of

schematic representations of encyclopedic knowledge. An illustrative example of frame semantics at work can be found in Fillmore and Atkins (1992) on the semantics of ‘risk.’ Through extensive examples from a corpus of 25,000,000 words, the authors analyze the meaning and syntactic properties of the categories of the RISK frame (valued object, harm, deed), and argue that a dictionary, if it wants to validly represent human knowledge, should be able to illustrate all of the syntactic possibilities these categories can be expressed through. This suggestion is being realized now in the form of the website <http://framenet.icsi.berkeley.edu>. As explained in Lowe, Baker, and Fillmore (1997), the process involves coming up with possible predicates of the frame, identifying frame elements, and then looking for sample sentences in the corpus and tagging them. The process is recursive in that, based on corpus evidence, the initially proposed frame elements may be revised and corpus examples then retagged. Sometimes frames form a hierarchy so that the parent frame may pass on some of its features to the subframe. For example, the (Real Estate Transaction) is a subframe of the (Commerical Transaction) frame.

The frame semantics approach has been used to describe numerous phenomena in a number of languages (Gilquin, 2003; Payne, Ole-Kotikash & Ole-Lekutit, 2001; Petruck, 1995). These studies manage to prove that patterns of language use, as well as changes in the usage of words, are not arbitrary phenomena but may be motivated by how our knowledge and experience is organized in frames. On a more theoretical level, Fontenelle (2000) argues for making use of existing traditional dictionaries, and describes (on the example of the SCHOOL EXAMINATION frame) how a lexical-semantic database can be created by enriching the online version of an English-French bilingual dictionary

by adding tags based on a corpus search. A comparison of the Hungarian and English ‘pig’ frame was carried out by Martsa (2000). The analysis relies on examples from dictionaries, and investigates expressions that relate to the thematic parts of habitat, appearance, behavior, and relation to people. The author concludes that the frame is nearly identical in the two languages, except for such minor differences like the pig being used to describe humans’ manner and amount of drinking and eating in Hungarian, while in English, the drinking part is missing. Nevertheless, these differences should not be downplayed if we consider the extent of possibly shared semantic features of ‘pig.’ A summary of frame semantics and its applications in different fields of linguistics can be found in Petruck (1996).

Similar to frame is the idea of domain as a base for the understanding of profiles, or concepts. A concept usually evokes knowledge residing in several domains. The terminology was first developed by Langacker (1987), who states:

All linguistic units are context-dependent to some degree. A context for the characterization of a semantic unit is referred to as a domain. Domains are necessarily cognitive entities: mental experiences, representational spaces, concepts, or conceptual complexes (p.147).

Three important properties of domains are their degree of basicness, their dimensionality, and their being locational, configurational, or both. Domains form a hierarchy; for example, the immediate domain for [KNUCKLE] is [FINGER], for [FINGER], it is [HAND], for [HAND], it is [ARM], and so on. A domain that cannot be further reduced is a basic domain and is a “basic field of representation grounded in genetically determined physical properties of the human organism [...] constituting an intrinsic part of our inborn

cognitive apparatus” (p. 148). Space, time, color, and taste are basic domains. On the opposite end of the continuum of the degree of basicness are abstract domains, such as the body, or the alphabet. Domains are structured along dimensions. For example, the color domain has the dimensions of hue, brightness, and saturation. Abstract domains are more difficult to deal with in this sense; nevertheless, we can identify dimensions for those, too. The emotive domain, for example, has the dimensions of positiveness and activeness. Finally, Langacker claims that some domains are configurational and some are locational. The domain of space is configurational, because a two- or more dimensional figure, for example a triangle, is the same regardless of its location. The domain of temperature is locational, because temperatures are points in a one-dimensional scale. The differentiation between locational and configurational domains is further refined by Clausner and Croft (1999), who show that it is concepts (i.e., profiles, or the basic semantic units) and not domains (background knowledge to represent concepts) that may be configurational or locational, even though some domains may only support locational concepts. For example, the domain of SPACE supports both the configurational concept *triangle* and the locational concepts *here*, *home*, or *Los Angeles*. Likewise, in the domain of LOUDNESS, *noise* is a configurational and *loud* and *quiet* are locational concepts. On the other hand, the domain of TEMPERATURE seems to have only locational concepts like *hot* and *warm*. The lack of configurational concepts in this domain results from neurophysiological facts, such as a temperature receptor can only experience one temperature at a time. Clausner and Croft argue that these constraints are extraneous to the domain. The idea of domains was used by Bańczerowski (2006), who

identified the domains family, time, sacrum, and value in the understanding of the concept of mother in the Hungarian language.

Cognitive linguistic approaches to word meaning unquestionably have altered the ways of thinking about lexical items. Still somewhat in their infancy, frame and domain analyses may seem messier than the elegant traditional approaches, and definitely require extensive descriptive work through exploring a large number of examples. Yet, the value of such investigations is immeasurable in terms of the insights they provide in explaining everyday language use. Frames, as schematic but dynamic representational units of our knowledge, also more thoroughly explain categorization than the simpler feature lists. Every word creates a category, or concept, each of which is a member of a frame or different frames. Frames capture a wide range of cultural and social knowledge organized around prototypes, and a word's meaning will depend on the context that is evoked on a certain occasion by emphasizing certain aspects of that prototype. Certain frames may exhibit substantial cross-cultural variation and thus apparently have a strong influence on differences in cross-linguistic categorization.

2.2.2. The cognitive theory of metaphor

The attempt to link ways of thinking to ways of talking has not eschewed the phenomenon of metaphors. Some of the earlier theorists treated metaphors as non-literal statements (Searle, 1993), others considered them as similarity statements (Miller, 1993) and still others saw them as class inclusion statements (Glucksberg & Keysar, 1993). These views were heavily challenged by the cognitive theory of metaphor, which aims to explain this phenomenon by linking it to our cognitive processes, more precisely, to the

ways humans think about and make sense of their surroundings and their life in general.

2.2.2.1. The theory

Without doubt, the pioneers of the cognitive theory of metaphor are George Lakoff and Mark Johnson. Their seminal work *Metaphors we live by* (1980) lays the foundations of the theory. The authors argue that “our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature” (p.3), and that abstract concepts are explained in terms of more concrete, physical concepts. For example, we think of time in terms of motion, which results in the TIME IS A MOVING OBJECT metaphor, evidenced by expressions such as ‘The time will come.’ The theory posits that metaphor creates a mapping between two domains, the so-called source domain and the target domain. In the example above, MOVING OBJECT is the source domain and TIME is the target domain. Language plays a vital role in exploring our mostly unconscious concepts:

But our conceptual system is not something we are normally aware of. In most of the little things we do every day, we simply think and act more or less automatically along certain lines. Just what these lines are is by no means obvious. One way to find out is by looking at language. Since communication is based on the same conceptual system that we use in thinking and acting, language is an important source of evidence for what that system is like.

Primarily on the basis of linguistic evidence, we have found that most of our ordinary conceptual system is metaphorical in nature. And we have found a way to begin to identify in detail just what the

metaphors are that structure how we perceive, how we think, and what we do (Lakoff & Johnson, 1980, pp.3-4).

Language provides evidence for the metaphoricity of concepts by allowing numerous expressions that seem to relate the same abstract concept to a more basic physical concept. For example, the classical LOVE IS A JOURNEY conceptual metaphor is apparent in such metaphorical expressions as ‘Our marriage is *on the rocks*’, ‘We’re *at a crossroads*’, ‘Look *how far we’ve come*’, among others. If it were not for the conceptual metaphor, we would not find so many expressions making use of the same source domain.

In Lakoff and Johnson’s later work, *Philosophy in the flesh* (1999) the idea of embodiment as an explanation for primary metaphors (Grady, 1997) becomes full-fledged. The main idea is that primary metaphors can be traced back to conflation periods in childhood (Johnson, 1997) when the simultaneous activation of two separate domains, a bodily and an abstract, leads to strong connections between areas in the brain. These steady links between the two later influence conceptualizing, or making sense of, one in terms of the other. This conceptualization in turn becomes the foundation for understanding metaphors.

The amazing idea of conceptual metaphors has resulted in a brand new way of thinking about this phenomenon. Nevertheless, the flaws of the Lakoffian approach, among them the neglect of the form of linguistic expressions, the heavy reliance on introspective data, and the weak empirical evidence between language and thought, have led to numerous sophistications of the original idea.

2.2.2.2. Studies on cross-cultural metaphors

Whereas a weakness of the cognitive theory of metaphors is its profound emphasis on thought at the expense of specific linguistic expressions, the idea of embodiment and through that the question of the universality of primary metaphors necessarily leads to cross-linguistic studies, which, by their nature, focus more on linguistic specifics. One area of cross-cultural metaphors that showed some promise of universality was metaphors of emotion. Kövecses (2002) investigated the concept of anger in eight unrelated languages (Chinese, English, Hungarian, Japanese, Polish, Tahitian, Wolof, and Zulu) and found that the ANGER IS PRESSURIZED SUBSTANCE IN A CONTAINER metaphor seems to hold in all of them. However, he also found that the elaborations differ substantially- for example, in some languages, the container for the anger is the whole body, while in others, it is the head. Kövecses also acknowledges that in Polish, the metaphor is only marginally present, while for Tahitian, he only had one informant. These facts make his case less solid, but still amazing. He explains this great similarity by arguing that when angry, all humans go through the same physiological changes, which lead to a number of underlying metonymies, where the symptom, e.g., redness in the neck, stands for the emotion. These universal metonymies are then further refined into metaphors, and that is where cultural idiosyncrasies enter. Yu (1995) also investigated emotion metaphors, focusing on metaphors of anger and happiness in English and Chinese. His findings are somewhat similar to those of Kövecses's in that there seems to be a very general schematic image that overlaps across languages. Nevertheless, an examination of the expressions of ANGER IS HEAT/ANGER IS FIRE metaphors reveals differences; for example, in Chinese, the anger remains contained

within the body whereas in English, it escapes. Furthermore, intensity is coded in the verb in English (e.g.: simmer, stew, burn, get steamed up), but in Chinese, the height of the fire indicates its intensity (e.g., it can rise to ten or thirty thousand meters). Yu found that some metaphors of happiness, e.g. HAPPINESS IS UP or HAPPINESS IS LIGHT, exist in both languages. At the same time, HAPPINESS IS BEING OFF THE GROUND works only in English, whereas HAPPINESS IS FLOWERS IN THE HEART works only in Chinese. Yu explains these findings with the culture of the Chinese, where being off the ground for a substantial time is not considered good (however, this is changing now-- B. Sun, personal communication, November 2007); at the same time, placing happiness as flowers in the heart corresponds to the introverted nature of Chinese, who rather hide their feelings.

Bańcerowski's (2005) analysis of the conceptualization of positive emotions, first of all happiness and joy, in Hungarian, reveals further interesting nuances. His examples from dictionaries, the national text corpus, and literary works show that Hungarians tend to put happiness in the face or eyes if it is conceived of as fire or light. If it is presented as pressure, it is in the chest or heart and it is liable to overflow. Bańcerowski also finds that sometimes emotions are depicted as having power over human beings. Emanatian (1995) discusses metaphors of sex and lust in Chagga, a tribal language of Tanzania. She argues that, despite the many differences in the mappings from the source domains of eating and heat between Chagga and English, evidence from many languages suggests that there seems to be a universal tendency to use these domains as sources. One of her proposed explanations is a structural similarity between the experiences of feeling and satisfying hunger for food and for sex.

A range of studies have a different focus from emotions. Ibarrexe-Antuñano (1993) studied metaphorical usage of the verb ‘smell’ in three languages- English, Spanish, and Basque. Her findings, which come from dictionaries, show that all three languages use smell metaphorically to talk about suspicion, investigation, and trailing. Talebinejad and Dastjerdi (2005) investigated animal metaphors in Persian and English. Many researchers have shown that animal metaphors are prevalent in many cultures and usually map negative features onto humans (Kövecses, 2002; Martsa, 2000). Talebinejad and Dastjerdi found that out of the 44 animals, about 75% were used the same or in a similar way in the two languages. The remaining 12 animals showed interesting cultural differences- e.g., the owl is not wise in Persian, but inauspicious. Participants tended to explain non-familiar metaphors in a way that would suit their value system. These studies attest to a degree of universality or at least cross-culturality first of all in the conceptualization of metaphors of emotion. Researchers are understandably amazed by the correspondences, for which panhuman physiology provides an intuitive explanation. Nevertheless, it appears that a reverse approach, that is, emphasizing the differences in spite of supposedly similar experiences, can easily lead to conclusions that disprove a high degree of universality.

Contrary to the studies that stress the universality of metaphors, another group of researchers emphasize cross-cultural variation in metaphors. The anthropologist Naomi Quinn, for example, investigated metaphors of marriage based on interviews (1987). She concludes that Americans’ conception of marriage is formed through folk models closely tied to culture. Traditional explanations for cross-cultural variation in metaphors assert that in different cultures, different source domains are salient; also, even if the same

source domain is used, different features may stand out to be mapped (Deignan, 2003). Deignan goes on to say that these claims cannot always explain metaphors; for example, a salient feature of dogs is their faithfulness; however, dogs usually are associated with negative things when used metaphorically. Examining a large corpus of British English on the metaphoric usage of 'horse,' Deignan found that expressions used in English are not found in Spanish (and four other languages). Since horses were just as much used for work and transportation in Spain as in England, Deignan concludes that metaphors are part of our cultural repository and thus show some degree of arbitrariness. On the other hand, Kövecses (2003), analyzing the LOVE IS A JOURNEY metaphor in American English and Hungarian, points to the differences that exist in the linguistic expressions in the two languages in spite of the shared conceptual metaphor. He finds explanation for these differences in the ways people view life in contemporary Hungary. This study also raises the issue of the level of abstraction of conceptual metaphors. Instead of a common LOVE IS A JOURNEY metaphor, should we get more specific and talk about LOVE IS AN UNPREDICTABLE JOURNEY for Hungarians? To pin down the extent of universality of conceptual metaphors, it is imperative for cross-linguistic studies to start out from linguistic expressions occurring in natural language use.

2.2.2.3. Metaphors and context

Beyond cross-cultural studies, another way to fend off the criticism of insufficient attention to language is to examine metaphors in context through natural discourse studies or corpus analysis. These facilitate the investigation of variables such as metaphor types by parts of speech, the position of metaphors relative to each other and to the content of the preceding and subsequent texts, and the effectiveness of metaphors

Cameron (2003) for example, after examining metaphoric expressions in textbooks for primary school students, points out that the metaphoricity of nouns is more noticeable than that of verbs. Furthermore, metaphoric expressions that cluster together will also be more identifiable. Finally, protocol analysis interviews reveal that students fail to understand metaphors that are not sufficiently embedded in the text, especially if they don't have enough background knowledge. Koller (2003) examined and identified functions of metaphor clusters and metaphor chains from the source domains of war, sports, and games in business texts. War metaphors tended to cluster at the beginning and at the end of the text, whereas sports metaphors, in the middle. This difference is indicative of a difference in their text organizing functions, Koller argues. Metaphor chains, meaning metaphoric expressions from the same source domain, also have multiple roles: they may echo, elaborate on, and intensify each other. Moder (2004), analyzing metaphoric expressions that take the form of noun-noun combination both in written and spoken discourse corpora, asserts that the frame activated by the preceding context plays a determining role in the possible interpretations of these expressions. This is especially true for target-source combinations, which are mostly conventionalized. In source-target combinations, it is the more novel expressions that are clearly "pre-packaged" by the context.

The value of natural discourse and corpus studies of metaphors is apparent for cognitive linguists and within that, for researchers of conceptual metaphors. As language use and processing is influenced by situational circumstances, and conceptual metaphors are held to reflect how we unconsciously understand our everyday life, metaphorical expressions are best investigated as they occur in the course of our interactions.

2.2.2.4. Methodological issues of metaphor research

A further unresolved point of the conceptual theory of metaphors concerns its very essence: although its main tenet is that metaphors are a matter of thought, most studies do not provide a compelling evidence for the link between thought and linguistic expressions. Critics approach this problem in two ways: they either do not make strong claims; for example, Deignan (2003) warns that her data do not tell us how people think about the entity under scrutiny; nevertheless, it does tell us how it is read and written about. Yu (2003) also makes it clear that it is not necessary that the metaphor ‘courage as gallbladder’ is activated in people’s mind when they talk about courage; at the same time, it is part of the “collective memory.” The second take on the issue is to try to use methods that do help to make the connection between language and thought. The contribution of the psychologist Raymond Gibbs and his colleagues is of vital importance in this issue. Gibbs and O’Brian (1990) showed how the consistent mental images created by numerous participants and the elaborations provided on the images for interview questions is an evidence for idioms being motivated by conceptual metaphors. Gibbs, Costa Lima, and Francozo (2004) investigated the DESIRE IS HUNGER metaphor in American English and Brazilian Portuguese. They went through a three step process, which was designed to ensure that the way people think about hunger motivates their thought about desire regardless of language. They had participants rate on a seven-point scale symptoms of hunger. Then, other participants rated the appropriateness of metaphorical expressions describing desire. They found that symptoms rated high for hunger were also more acceptable to be used with desire, and those low on hunger were also low on desire. Gibbs’ (2007) advice to linguists, though, is more in line with the first

solution: it is not necessary for linguists to start doing empirical experiments; rather, they should have clearly falsifiable hypotheses.

A final problematic issue with the conceptual theory of metaphors in its most classic Lakoffian approach is that the basis for assigning a source domain for certain expressions is not always clear. For example, in relation to the ARGUMENT IS WAR metaphor, several researchers have pointed out that singling out war as the source domain is somewhat arbitrary and that argument could as well be a game of chess (e.g., *to maneuver to achieve a strong position, to marshal one's forces*), a bridge game, or any activity that involves contest, for that matter (Eubanks, 2000; Ritchie, 2003; Vervaeke & Kennedy, 1996).

2.2.2.5. Metaphors of sports and games

Games and sports are often cited as source domains to describe different target domains in English, and the explanations mainly cite cultural, among them historical, particularities. The competitive element of most aspects of American life is also mentioned as a cause for the emergence of these metaphors (Hardaway, 2003; Liu & Farha, 1996). Most often, sports as a source domain appear for war (Edelson, 1991; Eubanks, 2000; Jansen & Sabo, 1994; Kövecses, 2002), business (Eubanks, 2000; Koller, 2003), law (Archer & Cohen, 1997; Liu & Farha, 1996), politics (Liu & Farha, 1996), sex (Sabo, 1994), life (Cudd, 2007), and work, especially as it is conceived of in a capitalist environment (Cudd, 2007). The appropriateness of these metaphors is sometimes cast into doubt, claiming that they manipulate people's conceptions of more serious things (Hardaway, 2003). In addition to sport metaphors, game as source is used to describe trade (Eubanks, 2000), business (Koller, 2003), capitalism (Cudd, 2007), and life (Cudd,

2007; Kövecses, 2006). Conversely, the most often identified source domains of metaphorical expressions to describe different sports are war, art, religion, and violence. Segrave (1997) discusses metaphors of violence, sex, and machine first of all in relation to football and basketball. He (just like Ross, 1971), subsumes war metaphors under violence, and he also claims that the most salient feature of these mappings is the controlled nature of the activity. Segrave concludes that, ultimately, “the language of sport is a matter of life and death” (p. 218). Whereas Jansen and Sabo (1994) single out football, Nadelhaft (1993) provides examples from a range of sports that make use of the war source domain. Both studies state that this mapping works both ways: from war to sports, and from sports to war. War as a source domain is probably the most forceful in times of the nation’s involvement in a war. Some authors (Anderson, 2003; Edelson, 1991) however, rage against using war as a source domain for sports, arguing that the metaphor is inapt and inaccurate because of the limited number of similarities that can actually be mapped from one to the other. Anderson (2003), for example, points out that the most salient feature of war is heroic courage, which might end one’s life. This type of courage is not present in sports, he asserts. This point goes back to Deignan (2003), who cites examples where it is not the most salient features of the source domain that are mapped. Ritchie (2003) brings chess into metaphor research in his critique of Lakoff’s ARGUMENT IS WAR metaphor. According to him, many of the expressions cited to support this metaphor could as well be expressions from a chess match. And in fact, chess and war are often used metaphorically to describe each other. Ritchie notes that apart from war, politics is also a possible source domain for chess (suggested by the names of the pieces). The role of religion as a source domain for metaphors of sport was

observed by Price (1991) and Rosengren (2004), both of whom analyze basketball, football, and baseball. Price points out the parallel between the importance of the way to the final judgment and that of the final four in the NCAA basketball championship. Rosenberg sees obsession with football being the same as devotion to a religion. His arguing is based on spoken discourse: movies and sport broadcasts. Apart from religion and war, a next, beautiful image of sports is one where the source domain is that of the art. Sports are at times depicted as plays in a theater (Novak, 1976; Ross, 1971). Ross gives a more specific picture, linking baseball to myths and pastorals, whereas Novak also sees sports as the embodiments of the image of freedom. An interesting frequently occurring theme of these sources is that in spite of the sacred nature of these sports, the hero is very much a human being, with all the human immoralities (Barthes, 1972).

As this review attests, the cognitive theory of metaphor plays a similar role to that of the prototype view of categorization in that both have brought a significantly new life to their respective fields, and both have led to an enormous amount of research. The cognitive theory of metaphor is a vital part of cognitive linguistics. By insisting that metaphors reflect a way of thinking, this theory readily accommodates cognitive linguists' argument for links between thought and language. At the same time, researchers need to exercise caution as to claiming too much about human thought on the basis of introspectively evoked expressions. Cognitive linguists devoted to their field have quickly recognized the weaknesses of the original theory and made adjustments by focusing more on linguistic expressions, novel metaphors, and the role context plays in our understanding of metaphors. Conceptual metaphors involve mappings between a source and a target domain. We may suspect a two-directional interaction between

metaphors and categories in that the motivation for choosing certain source domains to describe the target, and for the choice of features to be mapped may lie in the characteristics of the frames that are activated by certain categories. At the same time, conventionalized metaphoric expressions as well as novel metaphors, through enhancing or suppressing certain frame elements, may lead to new conceptualizations and thus formulate our dynamic categories.

Research on metaphors of games and sports mainly remains at the rhetorical level, singling out eye-catching expressions and connecting sports and games to such traditional grand areas like art, politics, war, religion, life and death. The lack of systematic investigation of all metaphoric expressions in texts describing games merits such a project.

2. 3. Conclusion

In summary, the theoretical advances in psychology and linguistics regarding categorization have opened up new avenues to gain insights into this vital but mostly unconscious process. Prototype theory is an improvement over the traditional Aristotelian view of categorization in that it proposes a more economic way for the categorizer to make judgments about where to place an encountered object or phenomena. Instead of checking all necessary and sufficient conditions, the categorizer compares the entity in question to a somewhat abstract rough prototype. The level at which this abstraction exists is still under investigation. Currently, theories are put forward in favor of a medium level, which would stand between the non-abstract exemplar view and the abstract prototypes (varying abstraction framework, Verbeemen, Vanpaemel, Pattyn, Storms, & Verguts, 2007). Prototype theory in its original form is not immune to criticisms, among

them the questionable nature of attributes, the lack of consideration for contextual effects, and the lack of explaining fuzzy boundaries. Nevertheless, the theory appears strong and at the same time flexible enough to be adaptable to these issues. Outside of psychology, cognitive linguistics presents an indirect way to remedy some of the flaws of prototype theory. Language, one of the most ubiquitous and often unconscious expressions of human thought, affords a sublime view on what it is people may have in mind on certain occasions. By strongly tying language to cognition, cognitive linguistics challenges the view of the existence of a hermetical language faculty. Lexical items are viewed as concepts and as parts of bigger interrelated frames that are capable of accounting for the seemingly (and justly so) immeasurable human knowledge. The meticulous semantic and syntactic analyses of constructions in which a certain lexical item appears in naturally occurring language use provides a so far unprecedented degree of the possibility of explaining human thought as expressed through language. The cognitive theory of metaphors contributes to this enterprise by considering metaphors as unconscious expressions of thought in the first place. The existence of cognitive metaphors suggests that the off-hand use of metaphoric expressions requires no deliberation, and is thus a mostly unconscious activity, motivated in part by how humans think about an abstract concept in terms of a more physical one.

The two frameworks of prototype theory and cognitive linguistics offer a promising means to this study, which attempts to compare and contrast the conceptualization of GAME in two languages. Cross-linguistic studies on categorization have readily made use of the principles of the prototype view of categorization. The cognitive theory of metaphor has also yielded a number of cross-linguistic studies, among

them on anger and happiness in English and Hungarian (Kövecses, 2002). Studies in frame semantics on languages other than English often cite English examples as reference, which makes these studies accessible to a fairly wide audience. Yet, research that would systemically compare frames in two languages is at this moment scarce. One exception is Martsa's (2000) analysis of the PIG frame in English and Hungarian. A point that makes the above cited Hungarian studies somewhat less compelling is their lack of corpus investigation.

It is proposed here that examining the combination of intuitive, semi-conscious, and conscious data on the category of GAME may in fact lead to speculations as to reasons for the possible similarities and differences in the ways American English and Hungarian speakers think and talk about games. As Hampton (2007) observes, most of our concepts are opaque, in that people are mostly unable "to introspect and give a clear account of the content of a concept" (p.378). This warrants an investigation involving all possible degrees of consciousness. Answers to survey questions are considered semi-conscious or conscious, while interviews and newspaper articles are supposed to likely cover most of this continuum. It is assumed that knowledge represented by features, frames, and metaphors are compatible. More precisely, the hypothesis is that knowledge of the prototypical as well as the less typical exemplars of the category and the introspectively available features of those exemplars calls to mind a number of schematic frames of varying accessibility. Interviews help tease out the so far hidden elements of the frames and gauge their possible contexts. The linguistic analyses of *chess* articles in terms of metaphors and frames exemplify the interaction between the conceptualization of this game and the linguistic choices made when talking about it. It is hoped that beyond

support, these analyses will also enrich our image of chess and through that, of games. The use of certain source domains as well as the absence or presence of certain frame elements may indicate cultural or linguistic traditions of the conceptualization of *chess* and games otherwise impossible to dig out. It is admitted that the choice of *chess* as a game to undergo closer investigation may be questionable. While the subjective motivation for this and the necessity to widen the scope of scrutiny is not denied for a moment, I am positive that *chess*, being a well-known game in both countries with extensive media coverage and with a wide range of expertise of the possible audience is an excellent candidate to help us further make hypotheses about the ways the two populations conceptualize GAME.

CHAPTER 3

METHOD

The broad aim of this study is to learn about the concept of GAME for American and Hungarian speakers, represented in the ways they write and talk about GAME and about individual games. More precisely, through a series of surveys in the tradition of the prototype view of categorization, my goal is to identify central and non-central members of the category for the two populations. This structural information is then enriched through semi-structured interviews and qualitative text-analysis, a big part of which relies on the conceptual view of metaphors. Interviews were used to address the most important critique of the prototype view of categorization, which asserts that contextual variables may heavily influence the degree of membership of items. Text analyses provide epistemological content related to the items in the category and help link linguistic forms to meaning and eventually to cognition; thus providing ground to establish connections between the findings of the multiple methods.

For this study, GAME was translated into Hungarian as JÁTÉK. As a native speaker of the language, I judged this as the single closest equivalent, even if differences in the meanings of the two words were apparent already prior to the investigation. The Magyar Nagylexikon (Hungarian Big Lexicon, 2000) defines the word 'Játék' as follows (excerpts; my translation):

'Játék' - in the Hungarian language, it has dual meaning: on the one hand, it is an activity that is pursued by children and adults for fun, entertainment, and to exercise their physical and mental powers; on the other hand, equipment (toy). In its broader sense, it can designate activities carried out in different areas of life. 'Játék' is first of all an occupation of children, which can be practiced alone or with peers. For adults, 'játék' means relaxation. Competition, getting the upper hand over somebody,

and the desire to win is even more foregrounded. This aim is obvious in a 'játék' for two people (e.g. chess). In sport 'játék's, group- and team 'játék's dominate, where the sole aim is to get good results, to succeed. (Magyar Nagylexikon, 10. kötet, p.230-231. Magyar Nagylexikon Kiadó, Budapest, 2000).

The definition of 'game' according to the Cambridge Dictionary of American English

(<http://dictionary.cambridge.org>):

game' (ENTERTAINMENT)- an entertaining activity, esp. one played by children, or a sports competition

or, according to Heinle's Newbury House of American English

(<http://nhd.heinle.com>):

'game' - an activity or sport, often with rules, that people play: *A favorite children's game is hide-and-seek.*

According to these definitions, games are associated first of all with entertainment and with children in both languages. Apart from the 'toy' sense of the Hungarian term, the biggest difference is that sports as games are more emphasized in the American definition; in fact, the Hungarian version uses the adjective + noun form 'sportjáték' - sport game.

My research questions for this study are the following:

- I. What are the similarities and differences in the central and more peripheral members of the concept of GAME for American and Hungarian college students, as revealed by a prototype analysis?
- II. What themes emerge in connection with the concept of GAME and individual games in the follow-up interviews with Hungarian and American students that provide contextual variables to the findings of RQ I?
- III. How do the similarities and differences in the source domains used in metaphorical expressions in American and Hungarian chess articles explain,

enrich, or contradict the findings of RQ I and II on the conception of *chess* in the two populations?

- IV. What morpho-syntactic forms are used in the two languages to describe certain phenomena during a chess game? In what ways do these forms complement our emerging picture of *chess* for the two populations?

In order to answer the first research question, three surveys were devised and conducted: an elicitation survey, a Likert-scale survey, and an attribute-listing survey. An elicitation survey was necessary as there was no previous study on category norms for GAME. Likert -scale and attribute-listing surveys are the common tools used in psycholinguistic research to elicit information that allows the researcher to pin down central and less central members of a category and to find links between the degree of centrality and the importance of certain attributes for an item. Following the traditions of linguistics, the statistical significance level was set at $p < .05$ in every analysis involving statistics. Whenever I refer to the whole concept of GAME, I use small capitals. Individual games are in italics, for example *chess*. All surveys were constructed in English and then were translated into Hungarian by me. Two native speakers of Hungarian with an excellent command of English verified the appropriateness of the translation. I chose to conduct the study in the participants' native language even when it would have been possible otherwise, to control for possible language effects. All participants filled out the survey during class time under the supervision of their class instructors. The next sections describe the three surveys one by one (for sample surveys, see Appendix A, p. 207).

3.1. Elicitation survey

3.1.1. Instrument

The survey used in this stage consisted of two pages: the first page asked participants to list as many games as they could think of in two minutes. The instructions were adapted from Rosch and Mervis (1975). The second page was a background questionnaire asking for information like age, languages spoken, and involvement in regular game activities.

3.1.2. Participants

American participants were 81 undergraduate students enrolled in ENGL 1213 (Freshman Composition II) at OSU in fall 2005. Their mean age was 19.04; 2% had lived abroad, 77% could play chess and 93% of them participated in regular game activities. Hungarian participants were 95 college students in their first or second year. Thirty-eight of them were different engineering majors at the University of Veszprém in spring 2005. Fifty-seven were English majors at Károli Gáspár University, Budapest, in spring 2005. The mean age of the Hungarian participants was 22.24; 26% of them had lived abroad; 69% could play chess and 53% were engaged in regular game activities. Thus, there were interesting differences between the two populations in the percentages of participants who had lived abroad and who had been involved in game activities, whereas the percentages of those who could play chess were relatively close. Table 3.1.1 displays this information visually.

Table 3.1.1. Demographic information on the participants of the elicitation survey

	Number of participants	Mean age of participants	% that had lived abroad	% that could play chess	% involved in regular game activities
USA	81	19.04	2	77	93
Hungary	95	22.24	26	69	53

3.1.3. Data analysis

All items listed by participants were put into alphabetical order to make type and item counts possible. All instances listed were assigned a score of one and were thus included in the total number of games mentioned. Games with variant spelling (e.g. *Chuttes and ladders* vs *Shuttes and ladders*) were considered as one type. I got help with identifying American games from five native speakers and the Internet. *Card games* that are often played on a computer were still identified as *card games*. Americans named *L/life* both as a metaphorical extension and as a board game. Most often, they indicated on the survey which meaning they were using; when not, I made a decision based on the environment of the word. That is, if it was included among other board games, I counted it as a board game, too. Among other metaphorical extensions, it was classified as an extension, also. Some instances posed a severe difficulty regarding whether they should or should not be viewed as sports. Finally, after considering American native speakers' suggestions as well as traditions of the games, *chess*, *badminton*, *bowling*, *billiards* and *Frisbee* were excluded from the category of sports, while *ping pong* was kept.

3.2. Likert - scale survey

3.2.1. Selection of items

Based on the results of the elicitation survey, twenty items were chosen for inclusion in a Likert-scale survey. Items were selected so that they would cover a wide range of games: sports, board games, card games, children's games as well as extensions. Because of the prominence of sports in the American data, many items come from this domain: *football*, *basketball*, *tennis*, *golf*. For the Hungarian population, *football* (which is called 'American football' there) was replaced by the Hungarian equivalent of *soccer*,

as I was interested in the rating for the most popular sport in a given country. As for board games, the most often mentioned ones -*Monopoly* (USA) and *Activity* (Hungary) - as well as a typical children's board game per language (*Candy land* and *Gazdálkodj okosan*) were included. (*Activity* is played in teams of two and involves drawing, pantomime, as well as verbal description. *Gazdálkodj okosan* is a board game similar to *Monopoly* in that it has fake money. However, it is not capitalist in the sense that players do not make money at the expense of others- they just try to collect enough money to provide a decent living for themselves. Adults would not play it without children). Items that showed large differences in the number of responses between American and Hungarian subjects were also included in the survey (*tag*, *poker*, *PlayStation*, *badminton*). Some counterparts to these items, showing no big difference in elicitation, were also chosen (*Frisbee*, *solitaire*). Hungarians' love for word games was acknowledged by the inclusion of the two items *Scrabble* and *blurt/szólánc*. (*Szólánc* is an oral word game where each player has to say a word that starts with the last sound of the previous one). *Crossword puzzle* was included to gain information on the extent to which a solitary, mental activity can be seen as a game. Of the four metaphorical extensions, *life* was elicited for both groups, *sex* and *chatting* for Hungarians, and *school* for Americans. *Chess* was included since it is the narrower focus of the third and fourth research questions. A final list of these twenty items can be found in the Appendix among the sample surveys.

3.2.2. Instrument

In the US, data were collected in the fall of 2006, while in Hungary, in the spring of 2006. Participants were given a three-page batch of papers, the first page with the

instructions and the survey itself. The twenty items were listed on the left-hand side of the paper, each followed by a string of numbers from 7 to 1, where 7 was described as ‘typical game’ and 1 as ‘very bad example.’ The numbers in between were unlabeled. Instructions were adapted from Rosch (1975). The second page asked for background information, while the third blank page was reserved for contact address for those interested in giving follow-up interviews.

3.2.3. Participants

Sixty-four Hungarian and 69 American students filled out the survey; however, one of the Hungarian and three of the American surveys were discarded as the students’ native language was not Hungarian or American English, respectively. Subjects were different from those in the elicitation stage. American participants were students enrolled in Freshman Composition I and II; 54 of the 63 Hungarian students were different engineering majors at the University of Veszprém, whereas 9 of them were English majors at Károli Gáspár University in Budapest. The mean age of the 63 Hungarian participants was $M = 22.00$, and of the 66 American students, $M = 19.68$. Eight percent of both the Hungarian and the American participants had lived abroad; 57% of the Hungarian and 92% of the American participants were involved in regular game activities; and 59% of both groups said they could play chess. That is, the percentages of those involved in game activities again show a big difference, with more Americans being involved. At the same time and interestingly, the percentages of those who had lived abroad and who could play chess were the same. Table 3.2.1 summarizes these demographic data.

Table 3.2.1. Demographic information on the participants of the Likert-scale survey

	Number of participants	Mean age of participants	% that had lived abroad	% that could play chess	% involved in regular game activities
USA	66	19.68	8	59	92
Hungary	63	22	8	59	57

3.3. Attribute-listing survey

3.3.1. Selection of items

Besides the superordinate category GAME, eight individual games were selected to be included in the attribute-listing survey. Again, the list aimed at including a wide range of games; also, it was important that they represent games of varying typicality.

Therefore, the most popular sport (*football/ soccer*), one of the most popular board games (*Monopoly/Activity*), a card game (*poker*), a classical children's game (*tag*), a classical board game (*chess*), and a word game (*Scrabble*) were investigated. Two metaphorical extensions, *school* and *life*, were also added. The number of items was limited to eight due to practical considerations: it appeared feasible for one person to do four items without boredom or fatigue, which, combined with access to participants, resulted in this decision. Figure 1 below is a list of these eight items in the two languages:

<u>Hungarian</u>	<u>Both languages</u>	<u>American</u>
soccer	tag Scrabble life	football
Activity	chess poker school	Monopoly

Figure 1. The eight items that underwent attribute-listing in the two languages

3.3.2. Instrument

In the USA, data were collected in the fall of 2006, whereas in Hungary, in the fall of 2006 and the spring of 2007. In this stage, participants were asked to list as many attributes of a term as they could think of in 1.5 minutes. One group of participants listed attributes of the superordinate category GAME, whereas two other groups listed attributes

for four individual games each. Thus, participants received either a 4- or a 7- page stack of papers: the first page with the instructions, the second (or second to fifth) with the concept at the top, the third (or sixth) with the background questions, and the last page was a blank for contact information. Instructions for the survey were adapted from Rosch and Mervis (1975).

3.3.3. Participants

All American participants were Freshman Composition I and II students at OSU. In the US, 40 students listed attributes of the superordinate category GAME. The participants' mean age was 19.35 years, and they listed an average of 10.3 attributes. 2.5% of these students had lived abroad; 80% of them were engaged in regular game activities, and 60% of them could play chess. In Hungary, for the superordinate category GAME, 54 students (44 from the University of Veszprém and 10 from Károli Gáspár University) listed 8 attributes on average. The participants' mean age was 20.19. A tenth of them had lived abroad; 46% were engaged in regular game activities and 60% could play chess. Thus, the percentages for those who could play chess are the same, whereas the percentages of participants who had lived abroad and who had been involved in games were very different. Table 3.3.1 below shows these figures.

Table 3.3.1. Demographic information on the participants that listed attributes of GAME

	Number of participants	Mean age of participants	% that had lived abroad	% that could play chess	% involved in regular game activities
USA	40	19.35	2.5	60	80
Hungary	54	20.19	10	60	46

For the four games *football*, *chess*, *tag*, and *scrabble*, 46 students listed attributes in the USA. Their mean age was 18.54 years. 2.2% of the participants had lived abroad; 63% were engaged in regular game activities, and 60% of them could play chess. In

Hungary, for the games *soccer*, *chess*, *tag*, and *scrabble*, 42 students (all from Károli Gáspár University) listed attributes. Their mean age was 22.9 years. Twenty-nine percent of the participants had lived abroad; 24% were regularly engaged in game activities; and 60% could play chess. Again, percentages for game-involvement and living abroad were different; at the same time, chess-playing percentages are the same. Table 3.3.2 below provides a visual aid for these numbers.

Table 3.3.2. Demographic information on the participants that listed attributes of *football/soccer*, *chess*, *tag*, and *Scrabble*

	Number of participants	Mean age of participants	% that had lived abroad	% that could play chess	% involved in regular game activities
USA	46	18.54	2.2	60	63
Hungary	42	22.9	29	60	24

For the games *Monopoly* and *poker*, and the metaphorical extensions *school* and *life*, 40 participants listed attributes in the US. Their mean age was 18.98 years. Five percent of the participants had lived abroad; 90% were engaged in regular game activities, and 63% could play chess. In Hungary, 40 participants (all from Károli Gáspár University) listed attributes for the games *Activity* and *poker*, and the extensions *school* and *life*. Their mean age was 22.63 years. Twenty-five percent of the participants had lived abroad; 20% were involved in regular game activities, and 55% could play chess. We find the biggest difference here between the percentages in game-involvement. Also, five times more Hungarian participants had lived abroad than Americans; the percentages of those who could play chess again show the steadily close figures. See Table 3.3.3 for this information.

Table 3.3.3. Demographic information on the participants that listed attributes of *Monopoly/Activity*, *poker*, *life*, and *school*

	Number of participants	Mean age of participants	% that had lived abroad	% that could play chess	% involved in regular game activities
USA	40	18.98	5	63	90
Hungary	40	22.63	25	55	20

3.3.4. Data analysis

For each item, all the attributes listed were compiled into an alphabetical inventory. Items appearing in both singular and plural were collapsed into the plural form. After each attribute, information was displayed on the number of participants that listed the item and on the position in which the item was listed by each participant. These original lists were truncated by collapsing some items. A few examples of this process are: long game→ long; takes forever to play→ long; game pieces→ pieces; small children→ children. This procedure was necessary in order to derive family resemblance scores (FRS), following the method of Rosch and Mervis (1975). Each attribute received a score of 2-8, depending on the number of items it was listed for (attributes listed only for one item were discarded). The FRS score of an item is the sum of the weighted scores of its attributes. The low Likert-scale scores of the metaphorical extensions *school* and *life* raises the issue of these items being far more on the periphery than the other six items. Hampton (1979), for example, puts the cut-off line for category membership at 50% (that is, 3.5 on a 7-point scale). Therefore, a modified attribute master-list was compiled and modified FRSs were also calculated with the exclusion of these items. Also, for each item, the 15-20 most important attributes were identified based on the method of Szalay and Deese (1978), also employed by Kim and Hupka (2002). For example, 8 Americans listed *boring* as an attribute of CHESS. For 3 of the 8, it was the first attribute, which gives a score of $3 \times 6 = 18$. For 2, it was the second attribute, which adds another $2 \times 5 = 10$ points. For one participant, it was the third attribute (score 4), for another one, it was the fourth (score 3), and finally, for one participant, it was the fifth attribute (score 3). Adding up, this yields a score of 38 for *boring* as an attribute of CHESS

for Americans. For one Hungarian student, the order of the properties was not determinable; in the calculations, each property from this list got a score of 3. It was also investigated whether the findings of Ashcraft (1978) hold for these data; to this end, the attribute lists were further shortened by discarding the idiosyncratic (named by only one participant) features for each item.

To answer the second research question, follow-up interviews with volunteers from both groups were conducted. It was hypothesized that, in line with the tradition of phenomenology, in-depth interviews would extract information on how people make sense of their lived experience in retrospect (Patton, 2002). I was hoping that participants' descriptions of their experiences with certain game activities will elucidate what aspects of these experiences are significant for them and why, thus providing context for the more static information elicited by the surveys.

3.4. Follow-up interviews

3.4.1. Data collection and participants

Semi-structured interviews were conducted with volunteers in both language groups. Three types of interview questions can be identified. The first group of questions sought clarification of ambiguous answers provided in the surveys as well as elaboration on some answers. For example, one student put the number '6' as an attribute of *tag*- I asked her whether she could recall what she had in mind when doing that. Or, one student said 'I don't like it' when asked about *soccer*, so I asked him if he could tell more about that. The second group of questions asked interviewees to describe what happens during a game they like to play. During this phase, I prompted informants' answers with simple

probe questions that would elicit detailed descriptions. Finally, the last couple of questions asked participants' opinions on specific topics, for example the difference between sports and games. Interviews took about fifteen minutes and were audio-taped on a micro- cassette tape recorder, after gaining the participant's consent. In the US, students who signed up for interviews were contacted via email. Negotiations sometimes failed; finally, six interviews were conducted in the fall of 2006 and in the spring of 2007. All interviews took place in a room on the premises of the English Department at OSU. In Hungary, prospective participants were contacted by phone. Five interviews took place in May 2006 in a room at the English Department of Károli Gáspár University, Budapest, and another three in June 2007 in the foyer of Fővárosi Szabó Ervin Könyvtár (Metropolitan Ervin Szabo Library), Budapest. One participant refused to be taped but agreed to my taking notes. The soundness of my interview techniques was aided by Patton (2002).

3.4.2. Data analysis

Interviews were transcribed word-by-word. Unfortunately, with half of the interviews, a long time elapsed between the taping and the transcribing process. This caused problems with the first two of the Hungarian interviews due to their poor sound quality (too much noise from the outside). This defect was made up for by the greater number of interviews with Hungarians. I reconstructed the untaped interview with the help of my notes right after its conclusion. Due to the nature of the interviews, both inductive and deductive analysis took place, searching for themes through coding (Patton, 2002). I was trying to identify traits that seemed significant for participants when judging to what extent an activity is a game. I was also looking for aspects that participants found

important to mention when describing one certain game. The reemerging themes were then subjected to a subtler reading that resulted in subcodes and relations between codes (Emerson, Fretz, & Shaw, 1995).

To answer the third research question, American and Hungarian chess articles were analyzed. Newspaper articles were chosen over chess books as it was hypothesized that not only experts, but a wider audience would read the former; therefore, the findings can be more readily connected to the information revealed in connection to RQ I and RQ II. Also, this choice allowed me to select articles from the same time period and on the same events, so that these variables would affect both populations to the same extent.

3.5. Domain analysis of metaphors

3.5.1. Data

Data for this analysis come from two American newspapers (*The New York Times*, *The Washington Post*), an online version of a Hungarian newspaper (*Nemzeti Sport*) and a Hungarian website (www.sporthirek.hu). These sources were chosen because they provided extended coverage of two outstanding chess events held in September and October 2004: the classical world championship title match between Vladimir Kramnik of Russia and Peter Leko representing Hungary; and the Chess Olympiad in Calvia, Spain. Nine issues of *The Washington Post*, six issues of *The New York Times*, twelve issues of *Nemzeti Sport* and twelve days of coverage from the website were chosen for scrutiny.

3.5.2. Data analysis

The articles fall into three categories: some are pure analyses of games written by grandmasters; others are reports or comments about the event for laymen and include no analysis; a number of the articles are a mix of these two. I divided this latter type of article into the analysis and comment sections and then carried out a manual word-count. The purpose of differentiating between these two text types was to control for the fact that a difference in the assumed audience for these texts might lead to a difference in metaphor usage. As Tannenbaum and Noah (1959) found, non-readers of sport pages often miss the exact meaning of metaphorically used verbs in sport articles, so we may suspect that journalists adjust their style to their expected audience. Table 3.5.1 shows the number of words for each text type. As the table indicates, the number of words in the American articles is about evenly split between event and analysis, whereas Hungarians have more words for describing the events. This discrepancy will be controlled for in the next table, where proportional frequencies of metaphors will be displayed.

metaphors will be displayed.

Table 3.5.1. The total number of words and their distribution according to text type in the Hungarian and American texts, respectively.

	Total #of words	Event #of words	Analysis #of words
Hungarian	9914	6705	3209
American	8276	4109	4167

Using techniques outlined by Cameron (1999) the texts were searched for metaphors relative to what I believe might be the norms for the American and Hungarian speech communities based on the incongruity of source and target domain. In fact, subsequent readings by two native speakers in both languages resulted in very few exclusions of the initially identified metaphors. To give an example, “the match is a highly technical

affair” was excluded because no single source domain was evoked by it, and therefore its metaphoricity was judged insufficient for this research. Similarly, “exploit the pawn” was dismissed because “exploit” can take too many objects to be unequivocally assigned to one domain. Identifying the source domains went along two lines: some of them were identical to those used for other sports or used in other conventional metaphors; thus, “attack” and “fight” were assigned to the source domain of ‘war’. “Produce a lot of fire” was also considered a ‘war’ metaphor since context suggested that it was used to refer to attack. “Hungry for victory” or “stale play” were put into the ‘physical state’ domain. For metaphorical expressions that seemed to map a salient feature, I tried to come up with a source domain: “crawl into first place” and “chess has sidled back” came under ‘movement’, while activities that do not involve a change in spatial position, for example “clinch first place” and “dampen enthusiasm” were assigned to ‘action.’ Sometimes expressions unexpectedly clustered around an idea; in that case, I changed the initial classification and crafted a new domain. For example, the Hungarian expressions “elgázol”- away wades (“runs over”), “letaglóz”- down fells (“fells”), and “nekimegy valakinek”- goes for somebody (“wade into somebody”) so strongly evoked violence that I moved them from ‘movement’ and designed the new category ‘violent act/movement.’ The same process happened in the American data- expressions like “jam black’s kingside”, “guard the squares”, “suffocate the pieces” “paralyze the opponent” were put into the domain dubbed ‘confining actions’ because they are all connected to a lack of space. The domains of ‘supernatural’ (cast a magical spell) and ‘gambling’ (lottery) are viewed as one domain, since both involve a lack of human control. Since the primary aim of the study is to tease out the source domains themselves, metaphorical expressions were

counted by type, not token. Table 3.5.2 gives numerical information on the number of metaphor types by text type and language. Numbers of metaphors/100 words (columns 2, 4, and 6) were calculated by the simple formula $[(100/\text{total number of words}) \times (\text{the total number of metaphors})]$, using the appropriate figures for a given text type. Being ratios, these numbers of metaphors/100 word control for the word frequency differences.

Table 3.5.2. The total number of metaphor types, their distribution according to text type, and the frequency of their occurrence in the two languages

	Total #of metaphors	#of metaphors/ 100 words	#of metaphors for event	# of metaphors/ 100 words for event	# of metaphors for analysis	# of metaphors/ 100 words for analysis
Hungarian	116	1.17	76	1.13	40	1.25
American	139	1.68	39	0.949	100	2.39

The overall list of source domains can be found in Chapter V, section 2. Domains that most contribute to our understanding of *chess* and games in the two languages were more closely examined. These domains are ‘war’, ‘physical properties’, ‘supernatural/gambling’, ‘violent act/movement’, ‘death’, ‘confining actions’, ‘spatial relations’ and ‘movement’.

To answer the fourth research question, that is, how the morpho -syntactic forms used to describe certain chess phenomena in the two languages contribute to our picture of *chess* for the two populations, a different set of chess articles was analyzed. It was hypothesized that these authentic reports, written by experts in each language and accessible to a wide audience, would as best as possible reflect the characteristic chess lingo in the two languages. To keep up with time, the event chosen for this analysis took place in September 2007.

3.6. Semantic and syntactic analysis of expressions on certain phenomena in chess games

3.6.1. Data

Chess articles from one Hungarian and one American website (www.sporthirek.hu and www.uschess.org, respectively) were chosen for this analysis. These sources provided a daily commentary on and analysis of the games played in Mexico City at the World Championship tournament in September 2007. The championship comprised eight players, everybody playing every other player twice, with changed colors. One report per round, resulting in a total of fourteen articles per language, were analyzed.

3.6.2. Data analysis

For this analysis, only those sections of the articles were chosen that directly commented on a move or position emerging during a game. More specifically, three types of comments were selected and analyzed: comments on time usage, on new moves, and on alternative moves. To illustrate, “Grischuk, down to his last two minutes” is a comment on time usage; “The first new move” is a comment on new moves, and “However 41...Ne4!? was probably a better try” is a comment on alternative moves. For the first two topics, cognitive linguistics’ frame semantics and domain analysis approach was employed. The third topic, alternative moves, was investigated in terms of tense usage. Syntactic features, among them verb tense, of the sport register have been a frequent topic of inquiry of linguists. Most often, these investigations involve real life sport casting, and conclude that most of all, the simple present is used for play-by-play reporting of short actions and simple past for summing up or elaborating (Ferguson,

1983; Rapp, 1985). Moreover, as Gorrell (1995) observes (though without frequencies), the use of simple present is ubiquitous - first of all in football and baseball castings- even in situations when the counterfactual would be more warranted because the action did not actually happen. Gorrell speculates that the reasons for this usage may be a will to communicate general observations, to make the commentary more vivid, or it may simply be a tendency to simplify on the part of the speakers of American English.

For my investigation, a manual word count was carried out on those parts of the articles that were direct game analyses and thus included the chosen comment types. Also, the American articles included numerous direct quotes from players. These were excluded from this scrutiny and word count as these players are non-native speakers of English. I judged that, for my purposes, it is important to investigate somebody's words who expresses themselves in English as a rule. Moves (e.g., 31. Nc6 Rf3) were not included in the word count in either language. The word count resulted in the estimated numbers displayed in Table 3.6.1 (estimated because of possible mistakes). For an example of a running analysis text, consider this:

The correct defense, but to get this far had already cost Morozevich more than an hour and a half on the clock. "There were many alternatives on every move, for both players," explained Morozevich.

Table 3.6.1. Estimated number of words in the analysis parts of the 14 articles in the two languages

	American	Hungarian
Number of words in analysis sections	5018	4253

In conclusion, a range of data collection methods from different disciplines were used to answer the four research questions that aim at getting a picture of the concept of GAME for the two populations of speakers of American English and Hungarian. The next two chapters, Chapter IV and V, will describe and discuss the results of these analyses.

CHAPTER 4

QUANTITATIVE DATA

In this chapter, the results of the quantitative data- gathering tools will be presented and discussed. A sequence of three surveys was devised to carry out a prototype analysis of the category of GAME in American English and Hungarian. Thus, the aim is to provide an answer for the first research question; namely, to discover the similarities and differences in the central and peripheral members of the category for American English and Hungarian speakers. Theoretically, the relationship between the two measures of typicality and degree of category membership has been a debatable issue. This paper takes sides with Hampton (2007), who argues for the two measures being “based on a single underlying metric of similarity” (p. 359) and thus inferences about either may be drawn on the basis of the other. All three surveys were accompanied by an identical background questionnaire, which asked, among other things, for participants’ age, native language, and whether they were involved in regular game activities. The first section outlines the findings of the elicitation survey. Next, the Likert -scale survey’s results are explored. Finally, the third section discusses the outcomes of the attribute-listing survey. In this chapter, whenever a term comes up for the first time in the tables, the original Hungarian word is also provided along with its translation into English.

4.1. ELICITATION SURVEY

In this survey, participants were asked to list as many games as they could think of in two minutes. This stage was necessary as no previous category norms existed. Gathering exemplars helped to see the range of games that exist for the two groups and to select instances for inclusion in the further surveys.

4.1.1. Results and discussion

This section is organized into four parts: an overall results and discussion; an investigation on the naming of the superordinate term versus individual games; a discussion on sports; finally, a passage on extensions.

Overall results and discussion of the elicitation survey

Altogether, in the elicitation survey, Americans listed 1055 instances of games, and Hungarians, 1492. The mean number of games mentioned by an individual is 13.02 in the American, and 15.71 in the Hungarian group. This is a significant difference ($t = 2.489, p < .05$). Table 4.1.1. gives statistical information about this stage of data gathering.

Table 4.1.1. The number of participants, minimum, maximum, mean and total number of games listed, and the standard deviation of the number of games listed in the two groups in the elicitation survey

	# of participants	Minimum # of games listed	Maximum # of games listed	Mean # of games listed	Total # of games listed	SD of the number of games listed
American	81	3	34	13.02	1055	5.801
Hungarian	95	3	46	15.71	1492	8.407

Table 4.1.2. displays the twenty most often mentioned items for the two language groups.

The percental distributions show interesting patterns in both languages: the American data splits into two after the fifth ranked item: there is a 16% drop from the fifth to the sixth item. In the Hungarian data, the first two ranked items, *card games* and *board games*, stand out with 69 and 66%, respectively. The third item, *computer games*, got

only 42% and the subsequent items show a gradual decline in frequencies. The frequencies of the most often mentioned items are also close: in the American data, *football* is mentioned by 63% of the participants, while in the Hungarian group, *card games* is mentioned by 69% of the participants. The four most frequently mentioned games in the American data, *football*, *basketball*, *baseball*, and *soccer* are all sports; six more sports, *golf*, *softball*, *tennis*, *hockey*, *ping pong*, and *volleyball* also make it to the top twenty. That is, half of the first twenty items is a sport; moreover, the superordinate term *sports games* is ranked 13. For Hungarians, only three sports- *soccer*, *basketball*, and *tennis* make it to the top twenty. Nevertheless, *sports*, *ball* and *badminton*, all of which can be related to sports, also rank here. (*Ball- labda* also hints at the dual meaning of GAME (JÁTEK) in Hungarian: besides ‘game’, it can also mean ‘toy’ in certain contexts, even though there is a separate word for ‘toy’).

Table 4.1.2. The twenty most often mentioned items in the two groups with the number of times being mentioned and the percentage of participants that mention them

American				Hungarian			
Rank order	Game	# (out of 81)	%	Rank order	Game (játék)	# (out of 95)	%
1	Football	51	63	1	Card games (kártyajátékok)	66	69
2	Basketball	45	56	2	Board games (társasjátékok)	63	66
3	Baseball	42	52	3	Computer games (számítógépes játékok)	40	42
4	Soccer	36	44	4	Chess (sakk)	35	37
5	Monopoly	35	43	5	Sports (sportok)	34	36.8
6	Poker	22	27	6	Soccer (labdarúgás)	33	35
7	Card games	20	25	7	Hide-and seek (bújócska)	33	35
8	Video games	19	23	8	Ball (labda)	32	34
9	Board games	17	21	9	Tag (fogócska)	32	34
10	Golf	17	21	10	Activity	28	29
11.5	Softball	15	18.5	11	Basketball (kosárlabda)	23	24
11.5	Tennis	15	18.5	12.5	Puzzle (kirakó)	20	21
13	Sports games	14	17	12.5	Role play (szerepjáték)	20	21
14.5	Checkers	13	16	14	Playing with a doll (babázás)	19	20
14.5	Chess	13	16	15	Lego	18	19
18.5	Blackjack	12	15	16	[a guessing game] (Barkóba)	17	18
18.5	Computer games	12	15	17	Tennis (tenisz)	16	17.5
18.5	Hide-and-seek	12	15	19	Badminton (tollaslabda)	13	14
18.5	Hockey	12	15	19	[Throw-out] (kidobó; a ball-game)	13	14
18.5	Ping-pong	12	15	19	Word-game (szójáték)	13	14
18.5	Scrabble	12	15				
18.5	Volleyball	12	15				

If we look at the top of the Hungarian rankings, what stands out is that the first three ranked items, item ranked 5, and item ranked 19 are the superordinate terms *card games*, *board games*, *computer games*, *sports*, and *word game* (*word game* – *szójáték* has a double meaning- it can be a cover term for games having to do with words but it also means ‘pun’). Conversely, four of these five terms are also present in the American data, but possess less importance: *card games* is ranked 7, *board games*, ranked 9, *sports games* is ranked 13, and *computer games*, 18.5. At the same time, *video games*, ranked 8 in the American data, mentioned by 23%, was mentioned only by 2% of the Hungarians. Individual board games also appear on the list for both groups: in Hungarian, two are in the top twenty and they rank high: *chess* is ranked 4 and *Activity* is ranked 10; on the

American list, *Monopoly*, *checkers* and *chess* are ranked 5, and 14.5 and 14.5, respectively. Even though *card games* is the most often mentioned item for Hungarians, no single individual card game makes it to the top twenty; for Americans, *poker* is ranked 6, and *blackjack* is 18.5. The Hungarian list also includes numerous children's games: *tag*, *hide-and-seek*, *lego* and *playing with a doll* are all in the top twenty; Americans name only *hide-and-seek* frequently (ranked 18.5). Just to compare, *tag* was mentioned by only 9 Americans. *Kidobó*, which is a classic elementary- and high -school PE ball game, is 19, while the guessing game *barkóba* is ranked 16 in the Hungarian data. Finally, *Puzzle*, which is hard to classify, is ranked 12.5.

One of the remarkable findings not seen from the table is that many American games were listed in extended or modified versions; participants list games like *freeze tag*, *laser tag*, *frisbee golf*, *ultimate frisbee*, *halo2*, *gameboy advance*, *strip poker*. Hungarians do not name games in their modified versions.

Another difference between the two groups is that the American data includes various drinking games: *3 man*, *beer pong*, *circle of death*, *cops and robbers* and *keg stands* and *quarters*. This kind of game is not found in the Hungarian data.

A final big dissimilarity in the opposite direction involves games with words. Hungarians name nine different word games; Americans, seven. The total number of times those games are mentioned differ widely: the Hungarian data include 47 instances (on average, 49% of the participants name a word game), whereas the American, only 22 (on average, 27% of the participants).

In general, the above results show a substantial difference in elicitation frequencies between the two groups. This can be expected if we consider Hampton and

Gardiner's (1983) speculation that this type of data (associative frequency) may be subject to cross-linguistic effects. The results suggest a "purer," or less varied, list of top twenty of the most often mentioned items for the American participants: an item here is either a superordinate term, or a specific sport, board game, or card game; the only exceptions are *hide-and-seek* and *Scrabble*. The Hungarian top twenty includes all of the above (with the exception of *Scrabble*), plus more children's games, the word *ball*, the ball game *Kidobó*, the guessing game *Barkóba*, and *Puzzle*. Due to this bigger variety, at this point, no dominant game or group of games emerges for the Hungarians. In contrast, for Americans, sports were elicited to an outstanding extent, with ten individual sports in the top twenty plus the superordinate term *sports games*. Looking back to the literature review for previous studies on sports, we can find that the first three items are the same for Americans no matter whether they list SPORTS, SPORTS PLAYED WITH A BALL, or GAMES (in this study), and the fourth item is also either *soccer* or *tennis*. *Golf* also seems to occupy the same significance either as a sport or as a game. For Hungarians, if not sports, physical activities also surface as important, with three individual sports and the words *sports*, *ball*, and *badminton* in the top twenty. Individual board games appear to a similar extent for the two groups, with two and three in the top twenty for Hungarians and Americans, respectively. The fact that more children's games are elicited from the Hungarians than the Americans may indicate that the relation between children and games is stronger in the consciousness of the former group. The most probable explanation for the lack of drinking games in the Hungarian data is that fewer of them exist and even those that do exist play a lesser role. Whereas drinking as an activity is widely pursued by Hungarian college students, it is not made into a game as much.

Another reason might be the bigger accessibility of the DRINKING IS A GAME metaphor to American college students through their readings and lectures (Berne, 1964; Corts & Pollio, 1999).

Finally, if we compare this American list to Hunt & Hodge's from 1971, (see literature review), we can notice some interesting differences. *Soccer* (rank 17 in 1971), *Blackjack* (named by 4 persons in 1971) and *softball* (named by 8 in 1971) substantially improved their positions, and the appearance of the cover terms *video games*, *board games*, and *computer games* is a new phenomenon. At the same time, *bridge*, which was ranked 6 in 1971, was not mentioned now, and *hopscotch* (rank 16 in 1971) was named by 6 people this time.

Superordinate terms versus individual games

The unexpected finding that there was a difference in naming individual games versus superordinate terms initiated a numerical analysis of this trend. While not strictly related to the research questions, I judged this analysis worthwhile in learning about the differences in the levels of the category for the two language groups.

Table 4.1.3. shows that the superordinate terms *sports*, *card games*, *computer games*, and *board games* were named by 36, 69, 42, and 66% of the Hungarian participants, respectively. The same statistics in the American data are 18, 25, 15, and 21%. That is, Hungarians tend to name these four superordinate terms more frequently than their American counterparts. The only exception to this phenomenon is *video games* (named by more Americans; see Table) but then, the Hungarian data contained so few actual video games in addition to the term *video games* that this result needs further exploration.

Table 4.1.3. The five most often used superordinate terms with the percentage of the participants that name them in the two groups

	USA %	HUN %
Sports	18	36
Card games	25	69
Video games (videójátékok)	24	2
Computer games	15	42
Board games	21	66

Tables 4.1.4., 4.1.5. and 4.1.6. provide a visual aid for a finer breakup of the subcategories *sports*, *board games*, and *card games* for the superordinate - individual instance differentiation. The choice of these three subcategories was motivated by their suspected importance for both groups. These tables are helpful in weighing the importance of these subcategories within the whole category, as the numbers take into account all elicited instances, not only those making it to the top twenty. The data in the tables are overall group data, summing over participants (95 Hungarians and 81 Americans). Since columns 1, 2 and 4 include raw frequencies, there is no control for the difference in sample size. This fact is considered and corrected in columns 3, 5, and 6, which show ratios or percentages. In all three tables, the first column shows the total number of times individual game instances belonging to the subcategory were mentioned (added up from the alphabetical order of all instances). The second column displays the number of instances when the superordinate (*sports*, *card games*, *board games*) or another cover term (e.g. “extreme sports”) for the subcategory was named. The third column shows the ratio of 1:2, that is, the ratio of the number of individual game instances and superordinate (and cover) terms for the subcategory at hand. The fourth column shows the sum of column 1+2, and column five shows how many instances of the subcategory (an individual game or a cover term) participants listed on average. Finally, column six presents what percentage the total number of items in the subcategory

(individual, superordinate, and cover terms) accounts for within the total number of games listed (see Table 4.1.1 for this figure for both groups). Thus, the first three columns are informative regarding the levels of the category (superordinate, basic level, subordinate) for a language group. Columns four to six, on the other hand, hint at the role the subcategory plays among games, and so is worth examining across language groups. The data for the first subcategory, sports, appear in Table 4.1.4. Americans name an individual sport 305 times, and a superordinate term (sports, intramural sports, organized sports) 16 times. Thus, Americans mention a specific sport 19.06 times more than one of the superordinate terms. The total of 321 means that on average, one person mentions 3.96 sports; moreover, 30.4% of all the mentioned instances (1055) is a sport or the superordinate level. Hungarians mention an individual sport 134 times and a superordinate term (sports, extreme sports, mass sports) 36 times; thus, they mention a specific sport 3.72 times more than one of the superordinate terms. On average, a Hungarian mentions 1.79 sports (170/95); and for Hungarians, 11.4% (170 out of 1492) of all the instances are sports. The big difference between the percentages in column 6 (11.4 vs 30.4) again confirms the much more important role of sports among games for Americans.

Table 4.1.4. Numerical and percentual description of sports

	1. # of times an individual sport was mentioned	2. # of times a superordinate sport term was mentioned	3. ratio of 1:2	4. $\sum 1+2$	5. 1+2 / number of participants	6. Percentage of "sport" items (column 4) out of the total number of items mentioned
HUN	134	36	3.72	170	1.79	11.4
USA	305	16	19.06	321	3.96	30.4

The next subcategory to be investigated is board games. As displayed in Table 4. 1.5., Americans mention 132 individual board games and they name the superordinate term 17 times. This means that they name an individual board game 7.76 times more than the

superordinate. Moreover, the total of 149 means that on average, an American mentions 1.84 board games or the superordinate term and that 14% of all instances mentioned is a board game or the superordinate term. Hungarians mention an individual board game 114 times; in addition, the superordinate level is mentioned 63 times. Thus, Hungarians name 1.81 times as many instances as the superordinate level itself. The total of 177 means that on average, a person mentions 1.86 board games or the superordinate term. Finally, 11.86% of all instances mentioned is a board game or the superordinate term. In the American data, the far most often mentioned board game is *Monopoly* (35 times), followed by *checkers* and *chess* (13 times each). Hungarians name *chess* (35) most often; *Activity* (28) is second, while *Monopoly*, lagging far behind (11), is third. Comparing the percentages in column 6 of this table to those of the previous one, we can see that board games have a more similar importance among games for the two populations than sports.

Table 4.1.5. Numerical and percentual description of board games

	1. # of times an individual board game was mentioned	2. # of times the superordinate term was mentioned	3. ratio of 1:2	4. $\sum 1+2$	5. 1+2 / number of participants	6. Percentage of "board game" items (column 4) out of the total number of items mentioned
HUN	114	63	1.81	177	1.86	11.86
USA	132	17	7.76	149	1.84	14

The third subcategory of GAME to be examined is *card games*. As Table 4.1.6 shows, Americans name different card games 78 times and they mention the superordinate term 20 times. Thus, Americans name 3.9 times as many card games as the superordinate term. The subcategory totals 98 instances for Americans, which means that on average, a person names 1.21 card games or the superordinate term. Also, 9.3% of all instances is an individual card game or the superordinate. For Hungarians, the superordinate term *card games* is the most often mentioned type of game-named 66 times by the 95 participants.

In addition to this, individual card games are mentioned 42 times. Thus, Hungarians name 0.64 times as many individual card games as the superordinate. To put it in another way, they name the superordinate term 1.57 times more than a certain instance. This subcategory totals 108 instances for Hungarians, which means that on average, one person mentions 1.14 card game or the superordinate term. Finally, 7.2% of all instances is a card game or the superordinate term in the Hungarian data. For Americans, *poker*, being mentioned 22 times, stands out. *Blackjack* is trailing far behind with 12, *go fish* and *uno* score 6 each. Hungarians name *rummy* 8 times, followed by *poker* (6) and *solitaire* (4). *Uno*, *21*, *solitaire*, *poker*, *rummy* and *blackjack* are mentioned by both groups. Again, the figures in column 6 in this table are much closer than those of the ‘sports’ table.

Table 4. 1.6. Numerical and percentual description of card games

	1. # of times an individual card game was mentioned	2. # of times the superordinate term was mentioned	3. ratio of 1:2	4. $\sum 1+2$	5. 1+2 / number of participants	6. Percentage of “card game” items (column 4) out of the total number of items mentioned
HUN	42	66	0.64	108	1.14	7.2
USA	78	20	3.9	98	1.21	9.3

The data presented above suggest that for Hungarians, the superordinate terms *sports*, *card games*, *board games*, and *computer games* come more readily to mind than for Americans (see Table 4.1.3). The only exception is *video games*; however, as noted earlier, the Hungarian data include very few instances of this subcategory at any level. We may speculate that for this group, *video games* do not possess great significance. The ratios of individual instances: superordinate terms of the three subcategories *sports*, *board games*, and *card games* indicate that instead of naming the superordinate term, Americans more readily call to mind individual game instances, and they do so with much

higher frequency than Hungarians do. This tendency holds for all the three subcategories and is the most prominent for sports (consider the figures in all three columns 3).

In fact, in the subcategory *card games*, Hungarians name the superordinate more often than any card game instances altogether. These findings imply that Americans view specific *sports*, *card-*, and *board games* as entities in themselves to a much greater extent than Hungarians do. For the latter group, though individual *sports*, *board games*, and *card games* exist, the knowledge that they are members of a broader category is prominent. Since the information in these tables reflects the whole data set, column six confirms again that *sports* play an outstanding role in the American GAME category. In the Hungarian category, the percentages for *board games* and *sports* are very close, board games slightly leading the way. This is partly due to the fact that *chess*, which ranked high in the Hungarian data, is considered a *board game* (and not a *sport*) in this study. (The reason being that at the beginning of my research, I was informed that this is how people view it in the US. Surprised as I was, I followed this categorization. The issue is taken up further in the interviews).

The next subsection provides a further analysis of the subcategory “sports.” The big difference between the two language groups in the percentage of sports words among all elicited instances (30.4% versus 11.4%), and also between the number of individual sports that made it to the top twenty (10 versus 3), instigated this more detailed investigation. In particular, a presentation of a fuller list of sports in the Hungarian data will facilitate more minute comparisons of this aspect of the category for the two groups.

Sports

Different sports seem to be the most prominent of games for Americans, and sports are also a significant subgroup of games for Hungarians. For Americans, 30.4% of all the mentioned instances are a sport or the superordinate level, whereas for Hungarians, this statistic is 11.4%. Altogether, Americans named 34 different sports, while Hungarians, 23. (Hungarian sports suffered a heavy loss due to the exclusion of *chess* and *badminton* (see Chapter 3- *Method*, p 64.) - as a result, this category actually ranks behind board games). The ten most often mentioned sports by the two groups are listed in Table 4.1.7. The table reveals similarities as well as differences between Americans and Hungarians.

Table 4.1.7. The most often mentioned sports with the percentage of the participants that mention them in the two groups

American			Hungarian		
Rank order	Sport	%	Rank order	Sport	%
1	Football	63	1	Soccer	35
2	Basketball	56	2	Basketball	24
3	Baseball	52	3	Tennis	17.5
4	Soccer	44	4	Ping pong	9
5	Golf	21	5	Volleyball (röplabda)	8
6.5	Softball	18.5	6	Hockey (hoki)	6
6.5	Tennis	18.5	7.5	Handball (kézilabda)	5
9	Hockey	15	7.5	Wrestling (birkózás)	5
9	Ping pong	15	9.5	Running (futás)	4
9	Volleyball	15	9.5	Swimming (úszás)	4

What immediately strikes the reader is the difference in the frequencies with which specific sports are mentioned- *football*, number one in the American data, is mentioned by 63% of the participants, while the Hungarian number one, *soccer*, scores only 35%. This difference holds through the whole set of ten sports; in fact, it even

amplifies. Looking at only the American data for a moment, we see the 23% break between the fourth (*soccer*) and fifth (*golf*) elements. A less dramatic gap (11%) exists between the first (*soccer*) and the second (*basketball*) sports in the Hungarian data. The first six of the Hungarian responses—, *soccer*, *basketball*, *tennis*, *ping pong*, *volleyball* and *hockey* - come up in the Americans' top ten, too. *Tennis* is the most similar in response percentages, being mentioned by 17.5 % of Hungarians and 18.5% of Americans. Americans' rank one, *football* and rank 6.5, *softball*, are not mentioned at all in the Hungarian data. Americans' third, *baseball*, is mentioned once, while rank five, *golf*, twice in the Hungarian data. At the same time, Hungarians' 7.5s, *handball* and *wrestling*, are both mentioned by only one American, while rank 9.5 *running* is mentioned by two people. The American students did not mention swimming as a game at all.

The above results give rise to some speculations about category structure and content for the two groups. First of all, the big differences between the percentages of the top ten sports suggest that Americans more strongly perceive sports as games than Hungarians do. At the same time, among sports, *soccer* for Hungarians is more representative of the category GAME than *football* for Americans, meaning that the first three sport items more closely cluster in their percentages in the American than in the Hungarian data. Moreover, in the American data, the 23% gap between items four and five may suggest that # 4, *soccer*, has been catching up with the popularity of the “big three”- *football*, *basketball*, and *baseball*. Sports in the top ten of only one group are mentioned very rarely by members of the other group. The reason may be that some of these sports are likely culture-specific (e.g. *football*, *softball*, *baseball*, *golf*, or *handball*).

However, some other sports, like, *wrestling*, *running*, or *swimming*, are obviously popular in both countries with numerous international successes. The fact that these sports are either not named or are named by very few Americans may simply indicate that these activities are not considered much of a game by American students. At this point, we can only hypothesize some possible reasons; what seems common in these sports is that they do not need a *ball* or *teams*. At the same time, we must note that even though some Hungarians mention these sports (*wrestling*, *running*, or *swimming*), the number of those who do so is very small, especially compared to those mentioning other sports. So, the speculation is that for a sport to be a game, the existence of either a *ball* or a *team* is a desirable feature even for Hungarians, if to a smaller extent than for Americans.

Extensions

Both language groups came up with metaphorical extensions of the concept GAME. *Life* (élet) and love relationships prove to be extensions that both groups favor. *Life* as such is mentioned 9 times (9% of the participants) by the Hungarians, and 8 times (10%) by the Americans. Love relationships include *flirt* (flört, named by 3 participants), *love* (szerelem, 1), *hugging my love tight* (szerelmemmel össebújás, 1), *love game* (szerelmi játék, 3), *sex* (szex, 9) and *starting dating* (kapcsolatteremtés, 1) in the Hungarian data – eighteen instances altogether (overall, 19% of the participants). Americans name *attracting the opposite sex* (1), *experimenting with different loves* (1), *flirting* (5), *foreplay* (1), *love* (2), *sexual games* (1), *relationships* (4) – altogether, fifteen instances (16%).

For Americans, an important domain of extension is school life. They name *class work* (1), *essays* (1), *grades* (1), *getting to class on time* (1), *getting my homework done*

(1), *homework assignments* (3), *school* (6), *studying* (1), *seeing how long I can wait to get my homework done and still get it in on time* (1), and *tests* (1)- altogether, seventeen instances (overall, 21% of the participants). For Hungarians, this area does not seem to be an important extension- only two of them name *college* (egyetem). Conversely, they see different forms of traveling and chatting with people as games: they mention *travelling by bus* (buszon utazás), *traveling by elevator* (lifttel való utazás), *traveling on a tram* (villamoson utazás), *chatting* (beszélgetés), *chatting with friends* (barátokkal beszélgetni), and *chatting with foreigners* (külföldiekkel beszélgetni). Out of these, only *chatting with people* is mentioned by one American. On the other hand, an interesting extension on the part of Americans are some random everyday activities that might pose a challenge depending on the circumstances: *tying my shoes with wet fingernail polish*; *writing on random people's white board on their door*; *crossing Duck street to get to my car*, and *outsinging anyone else in the shower* belong here.

These results confirm that on hearing (or reading) 'game', metaphorical extensions come to mind to speakers in both language groups to some extent. In addition to the similarities (*love* and *life*), some remarkable differences also surface in this respect. For Hungarians, *school* seems to lack some ingredients to be called to mind as a game; looking back at the top twenty, we might speculate that *school* may lack either fun, competition, or a strong link to children or may be just way too serious. For Americans, travelling and chatting are activities that do not come to mind when thinking of games; again, an assumption may be that these activities lack excitement; we may say this especially in light of other everyday activities that do appear as games (*tying my shoes with wet fingernail polish*; *writing on random people's white board on their door*).

4.1.2. Conclusion to the elicitation survey

Perhaps the most interesting finding at this point is that Americans, when asked about games, readily think of concrete games as basic level entities, whereas Hungarians seem to consider the cover terms *card games*, *board games*, and *sports* as basic level. Consequently, to answer the first research question, for Americans, the concept of GAME first of all evokes the most popular sports like *football* or *basketball*. These outstanding sports are followed by card games like *poker*, board games like *Monopoly*, and by other, somewhat less popular sports (*tennis*, *softball*). Games having to do with children (*hide-and-peek*) as well as the mind game *chess* come next. It seems like for Americans, word games are closer to the periphery. For Hungarians, the central members are indoor games involving a small group of people, *-board games*, *card games*, *computer games*, -as well as *sports*, without having a specific item in mind. When they do call to mind a game, it is most likely *chess*, *soccer*, or some game involving first of all children, like *tag* or *hide-and-peek*. For them, the second tier includes somewhat less popular games from the broad subcategories: *basketball*, *puzzle*, or *playing with a doll*. Other physical activities (*kidobó*, *badminton*) as well as *word-game* come next. For Hungarians, *video games* and most *sports* appear in a more marginal position.

Metaphoric extensions also show the dual character of similarities and differences: two important domains - life and love relationship – overlap. At the same time, school life and other challenging activities are important extensions in the American, but not in the Hungarian data set. Conversely, Hungarians mention traveling on different vehicles and chatting with people among the games; these domains are not at all or not significantly present in the American data.

These findings allow some speculations about the features of games for the two groups. For Americans, the dominance of sports suggests that physical activity, competition, challenge, or teams may be essential features. Fun probably also accompanies game activities. For Hungarians, the heavier mix, including a lesser role of sports and a bigger role of children, implies a sense of ease together with fun as a main feature of games.

4.2. Likert- scale survey

The second inquiry tool employed in order to find an answer for the first research question was a 7 point Likert -scale survey. Participants were asked to rate a 20-item subset of the elicited game instances, which was expected to further contribute to my ability of pinning down the central and less central members of the category GAME for the two language groups. On the survey, each game item was followed by a 7-point scale where 7 was described as “typical game” and 1 as “very bad example.” Most of all, statistical analyses were run on the data set to elicit important similarities as well as differences between the two language groups. The significance level was set at $p < .05$, as is usual in linguistic studies.

4.2.1. Results of the Likert - scale survey

Overall, Hungarians tend to give higher scores – except for the first three items- and use the scale to a lesser extent. The range between the first and the last item is 4.16 in the Hungarian and 4.93 in the American data. Table 4.2.1 shows the mean and standard deviation of all the individual scores for the two language groups.

Table 4.2.1. Mean and SD of all scores for the two groups

Group	Mean of all scores	SD of all scores
American	4.6375	2.29499
Hungarian	5.0397	1.88323

Table 4.2.2 shows the mean scores of the twenty items for the two language groups in a descending order. An independent samples t-test showed that there is a significant difference between the means of thirteen of the twenty game pairs in the two languages (pairs being the same games, with the exception of four items: *soccer/football*, *Activity/Monopoly*, *szólánc/blur*, and *Candy land/Gazdálkodj okosan* see -*Method* section, p 64-65. for explanation).

Table 4. 2.2. The mean ratings of the 20 items on a 7-point scale in a descending order by language group

American			Hungarian		
Rank	Game	Score	Rank	Game	Score
1	Football	6.48	1	Activity (a board game)	6.24
2	Basketball	6.45	2	Gazdálkodj okosan (Economize wisely)	6.13
3	Tennis	6.14	3	Badminton	5.94
4	Candy land	5.77	4	Basketball	5.90
5	Monopoly	5.73	5	Soccer	5.89
6	Golf	5.71	6	Tag	5.86
7	Scrabble	5.48	7	Solitaire (pasziánsz)	5.81
8	Badminton	5.47	8	Frisbee (frizbi)	5.81
9	PlayStation	5.45	9	Tennis	5.57
10	Chess	5.42	10	Scrabble	5.49
11	Poker	5.35	11	szólánc (word chain)	5.48
12	Solitaire	5.21	12	PlayStation	5.38
13	Tag	5.09	13	Poker (poker)	5.30
14	Frisbee	4.59	14	Chess	5.05
15	Crossword puzzle	3.36	15	Golf	4.89
16	Life	3.05	16	Crossword puzzle (keresztrejtvény)	4.81
17	Sex	2.65	17	Sex (szex)	3.48
18	Blur	2.13	18	Chatting (beszélgetés)	2.98
19	School	1.56	19	Life (élet)	2.75
20	Chatting	1.55	20	School (iskola)	2.08

The thirteen significantly differently rated items are (with the American mean followed by the Hungarian in parentheses): *football/ soccer* (6.48 vs 5.89), *basketball* (6.45 vs 5.90), *tennis* (6.14 vs 5.57), *Monopoly/ Activity* (5.73 vs 6.24), *golf* (5.71 vs 4.89), *solitaire* (5.21 vs 5.81), *tag* (5.09 vs 5.86), *Frisbee* (4.59 vs 5.81), *crossword puzzle* (3.36 vs 4.81), *sex* (2.65 vs 3.48), *blur/ szólánc* (2.13 vs 5.48), *chatting* (1.55 vs 2.98), and *school* (1.56 vs 2.08). Table 4.2.3 below displays this information visually.

Table 4.2.3. The means of the 13 significantly differently rated items for the two populations

Game	American mean	Hungarian mean
Football/soccer	6.48	5.89
Basketball	6.45	5.9
Tennis	6.14	5.57
Monopoly/ Activity	5.73	6.24
Golf	5.71	4.89
Solitaire	5.21	5.81
Tag	5.09	5.86
Frisbee	4.59	5.81
Crossword puzzle	3.36	4.81
Sex	2.65	3.48
Blurt/ szólánc	2.13	5.48
Chatting	1.55	2.98
School	1.56	2.08

The other seven item pairs showed no significant difference in their means (*Candy land/Gazdálkodj okosan*: 5.77 vs 6.13; *Scrabble*: 5.48 vs 5.49; *badminton*: 5.47 vs 5.94; *PlayStation*: 5.45 vs 5.38; *chess*: 5.42 vs 5.05; *poker*: 5.35 vs 5.30; *life*: 3.05 vs 2.75).

The next table, Table 4.2.4, shows items grouped together based on their z scores by 0.5 breaks. This method splits up the American list into five groups, and the Hungarian into six. In the American data, the first three items comprise a group, followed by a larger set consisting of 10 games. *Frisbee* forms a group of its own, whereas the last six items make up two groups of three. In the Hungarian list, the two outstanding items are followed by a big group of 12 games. The last six items fall into four groups with a pattern of 2-1-2-1. Comparing across languages, the biggest similarity is the outstanding size of the second group. Of the first five items of both lists only one item, the Hungarian rank 3, *badminton* falls into the same category for both groups. Moreover, the contents of the first group suggest a difference in the central members of the category. Other remarkable differences are the placement of *golf*, *Frisbee*, *crossword puzzle*, *blurt/ Szólánc*, *life*, and *school*.

Table 4.2.4. A z score grouping of items by language group

Z scores	American items	Hungarian Items
(+. 0.5)- (+ 1)	Football Basketball Tennis	Activity Gazdálkodj okosan
(0.00)- (+ 0.5)	Candy land Monopoly Golf Scrabble Badminton PlayStation Chess Poker Solitaire Tag	Badminton Basketball Soccer Tag Solitaire Frisbee Tennis Scrabble Szólánc PlayStation Poker Chess
(0.00)-(-0.5)	Frisbee	Golf Crossword puzzle
(-0.5)- (-1.00)	Crossword puzzle Life Sex	Sex
(-1.00)- (-1.5)	Blurt School Chatting	Chatting Life
(-1.5)-(-2.00)		School

Rosch's (1973, 1975) finding of big agreement among participants to rate the item with the highest mean the same way was not supported for either group: 77% of the Americans gave *football* a 7, while the figure is even lower for Hungarians: 55% of them rated *Activity* with a 7. If we add those that gave a 6 (27%) -to count with the suspicion of an avoidance of extremes on the part of Hungarian participants, - we are still short of Rosch's 95%.

4.2.2. Discussion of the results of the Likert –scale survey

The fact that Hungarians rate items higher as a rule makes it even more remarkable that all four sports –*football/soccer, basketball, tennis,* and *golf*- were rated significantly higher by Americans than by Hungarians. These results, with the exception of *tennis*, also support the findings of the elicitation survey, where Americans named

sports far more often (see Table 4.1.7, p. 91). All these four sports are also in a higher category for Americans in the z – score grouping. Other items for which the two measures (elicitation survey and t -test of the Likert-scale) yielded corresponding results are *tag* (elicited by 34% of the Hungarians and 12% of the Americans), *blurt/szólánc* (elicited by 12% of the Hungarians and 1.2% of the Americans) and *sex* (elicited by 9.5% of the Hungarian and 1.2% of the American participants). Out of these, *blurt/szólánc* also fall into different z –score groups. Even though *tag* is situated in the same z –score group for the two languages, the actual z -scores are rather different (0.19 and 0.44). *Sex*'s z scores, on the other hand, are very similar (-0.866 and -0.83). *Life* and *Scrabble* showed similar tendencies in the two surveys, *life* having been mentioned by 9.5% of the Hungarians and 10% of the Americans and giving a non-significant difference of means in the Likert-scale ratings, whereas *Scrabble* was mentioned by 7% of the Hungarian and 15% of the American students, again with a non-significant difference in means. Nevertheless, of the two, *life* is in different z score groups. Some items produced contradicting results in the elicitation and t -test measures. The clearest cases are: *tennis*, being elicited to approximately the same extent (18.5% vs 19.5%), was rated significantly higher by Americans and is in different z –score groups; *school* and *Monopoly/Activity*, being elicited more from Americans than Hungarians (7.4% vs 2% and 43% vs 29%, respectively) but rated higher by Hungarians. True, *school* in the Hungarian z –score grouping is a sole tail ender. On the other hand, *chess* and *badminton* were mentioned by far more Hungarians than Americans (37% vs 16% and 14% vs 2.5%) but were not significantly different in the Likert-scale ratings and are in the same z –score groups. Conversely, *poker* and *PlayStation* were named by more Americans than Hungarians

(27% vs 7% and 12% vs 2%, respectively), but were not rated differently and are in the same z -score group. Hampton and Gardiner (1983) found a greater correlation between typicality ratings than between associative frequency for two populations, American and British. So, the fact that few items show the same tendencies on all three measures in the present study is not surprising and may be attributable to different factors. Elicitation responses were influenced by the previously discussed issue of naming the superordinate/basic level, whereas the t - test results bear on them the mark of Hungarians' rating consequently higher. Or it can simply be the case that the category has very few clear cases. Investigating the results of the elicitation survey and the z scoring separately for the two language groups may help us get closer to the answer.

The strength of the relationship between frequency of elicitation and typicality ratings of items is questionable. Whereas Rosch (1973) found that frequently elicited items got high ratings on a Likert-scale survey, in Uyeda and Mandler's (1980) study, on the other hand, Spearman correlation between typicality ratings for the category SPORT and the rank order of the same items in Battig and Montague's (1969) study was moderate at .515. Furthermore, Hampton (1979) observes that typicality may be better predicted by the number of prototype features possessed by an item. In my data, for Americans, the dominance of sports as games is apparent both in the elicitation survey and in the Likert- scale ratings as well: both *football* and *basketball* were more often elicited than either *Monopoly* or *Candy land*, and they fell into separate z - score groups. As for the other games within the American data, the elicitation survey showed a big difference between the elicitation frequencies of items five and six (*Monopoly* and *poker*), but they are in the same z -score groups. On the other hand, the elicitation survey

showed a big difference between the elicitation frequencies of the two most often mentioned sports (*football* -63% and *basketball*- 56%) and those of *golf* (21%) and *tennis* (18.5%). These findings were partially supported by the results of the Likert-scale survey: *football*, *basketball*, and *tennis* are in the same z - score group, but *golf* scores lower. Furthermore, within board games, *Monopoly* was elicited almost three times more than *chess* (35 vs 13 times); nevertheless, they are in the same z –score group. In addition, *Candy land*, which was elicited only 8 times, is also in this group. As for the extensions, *life* was elicited 8 times; *school*, 6 times; and *chatting* and *sex* only once each. Again, the z - score grouping only partially reflects this trend: *life* and *sex* are in the same, higher group than *chatting* and *school*.

For Hungarians, just like the elicitation survey, the Likert - scale also supports the fact that sports and board games both come to mind readily when thinking of games. On the z - scoring, the two classical board games outscore the sports; a fact that helps clear up the fuzziness of the elicitation survey. Staying with the four sports included in the Likert - scale, the low elicitation frequency (2) of *golf* bears out in the ratings as well: it falls into a lower z –score group than the other sports. As for other board games in the Hungarian data, *chess* was elicited more often than *Activity* or *Gazdálkodj okosan* (35, 28, and 5 times, respectively); however, it falls into a lower z –score group. As for the extensions, *sex* and *life* were elicited 9 times; *chatting*, 4 times, and *school*, twice. The z - score grouping corresponds to these numbers with the exception of *life*.

This analysis of the two measures by language groups yields very varied results, which indicates that Rosch's (1973) finding only partially holds for this category. Whereas the most central cases are pretty clear, graded membership quickly becomes

fuzzy. We may speculate that this is due to the more subjective nature of this category. Contextual variables, like participants' preferences, may more significantly influence perception of category membership than in the case of the natural categories of objects.

Finally, comparing the results of the Likert-scale survey to results of earlier studies (see literature review), we find that Americans undoubtedly consider *chess* more of a game than a sport. This is so even if Hampton's (1988) inquiry in Great Britain shows that *chess* is held to be a game to a lesser extent by both the current American and Hungarian participants than by those in London. The same is true for *golf*, especially for Hungarians. At the same time, in most studies, *golf* is roughly rated the same either as a sport or as a game by Americans (around 75-80%), whereas *badminton* is more of a game, though the difference between its status as a sport or a game is less pronounced than in the case of *chess*. *Monopoly* as a game is also somewhat lower rated by Americans than by Britons (see Hampton, 2007 for a discussion on the relationship between probability of categorization, degree of membership, and typicality).

4.2.3. Conclusion to the Likert-scale survey

Going back to the first research question, the combined results of the elicitation and the Likert- scale survey reinforce the answer that for Americans, the most central members of the category GAME are ball games, that is, sports that involve teams, for example *football* and *basketball*. Next come some board games (maybe those having to do with luck- *Monopoly*) and individual sports (*golf*). Card games appear only in the next tier, together with board games that need more thinking (*poker*, *chess*, *Scrabble*). Physical activities that lack the element of competition follow (*tag*, *Frisbee*). The high rating of *Candy land* puts the 'children' aspect of games into a controversial position. We

can only speculate as to the big difference between the ratings of the two word games, *Scrabble* and *blurt* – maybe the presence of physical accessories (board, letters) as well as familiarity make *Scrabble* more game-like for this population. Metaphorical extensions lurk around the category boundary, *life* being the furthest from the periphery, followed by *sex*. *Chatting* and *school* rank the lowest. This may be explained by Eubanks' (2000) observation; he comes to the conclusion that game metaphors are not very stable, easily transforming into friendship, journey, and war metaphors.

The Likert-scale helped to somewhat disentangle what games Hungarians may have in mind under the cover terms. It seems that for this population, board games needing limited thinking (*Activity*, *Gazdálkodj okosan*), followed by some sports (*soccer*, *basketball*) are the most central. Next come some card games (*Solitaire*) and some physical outdoor activities (*tag*, *Frisbee*). Indoor games involving thinking (*Scrabble*), individual sports (*tennis*) and some card games (*poker*) follow. *Chess*, positioned in the next group, is thrown into the most controversial situation, being elicited often but rated relatively low. The expensive sport *golf* groups together with the mental exercise *crossword puzzle* for the next tier. The high ratings of *tag* and *Gazdálkodj okosan* support the important role of children found in the first survey. Metaphorical extensions are near the borderline for this population, too, *sex* firmly held up as the most game-like, followed by *chatting* and *life*. *School* ranks the lowest.

Below is a graphical representation of membership status for the two language groups based on the current results.

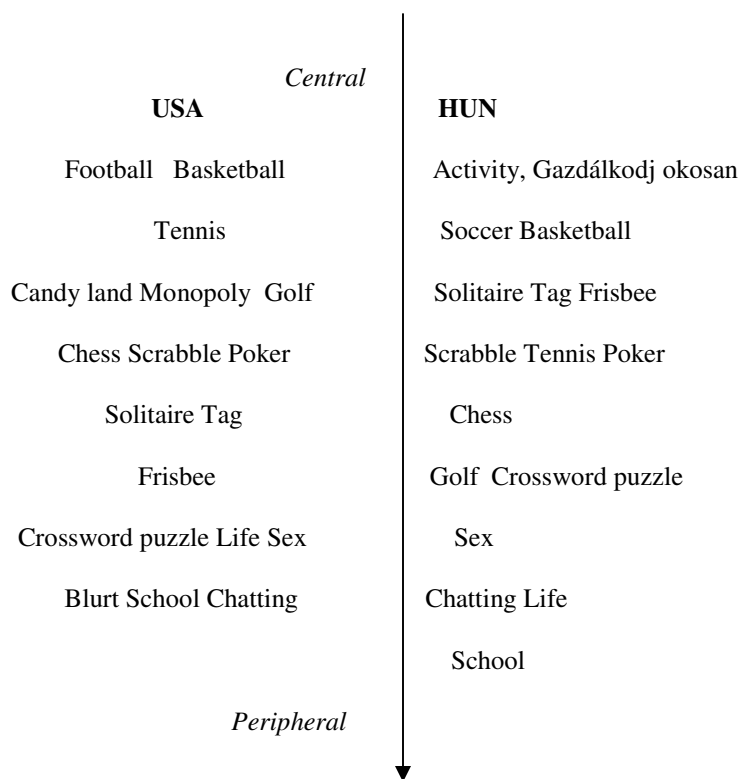


Figure2. Graded membership in the category of GAME for speakers of American English and Hungarian

4.3. Attribute listing survey

This final survey was designed to elicit attributes of the concept of GAME as well as of some individual games. This investigation hoped to contribute to the answer to the first research question, - identifying similarities and differences in the central and less central members of the category for the two language groups. I hypothesized that attribute lists might throw some light on the so far controversial category members as well as provide partial explanation for findings in general. It was also explored whether, in line with previous research, there would be a strong correlation between typicality ratings and family resemblance (derived from the listed attributes). One group of participants listed attributes of the category GAME, and two other groups listed attributes of four individual games in each language group (one group for *football/soccer, tag, chess, Scrabble* and the other for *Monopoly/Activity, poker, life, school*). The section is

divided into two subsections: first, the results of the numerical analyses regarding category structure are explored. Second, the attribute lists are presented and discussed.

4.3.1. Results and discussion of the attribute-listing survey regarding category structure

This subsection includes analyses that address the findings of previous research on prototype categories. In particular, the issues of family resemblance scores, number of attributes listed, attribute overlap, and dominance of the superordinate category are discussed. To help the reader, Table 4.3.1 shows the Likert -scale order of the eight items included in the attribute listing survey.

Table 4.3.1. The Likert-scale order of the eight items included in the attribute listing survey

Rank	USA	HUN
1	Football	Activity
2	Monopoly	Soccer
3	Scrabble	Tag
4	Chess	Scrabble
5	Poker	Poker
6	Tag	Chess
7	Life	Life
8	School	School

Family resemblance: The following family resemblance scores (FRSs) were calculated for the American data based on the eight items: *football*: 176, *Monopoly*: 146, *Scrabble*: 154, *chess*: 159, *poker*: 143, *tag*: 126, *life*: 195, *school*: 196. With *life* and *school* excluded, the scores were as follows: *football*: 115, *Monopoly*: 106, *Scrabble*: 112, *chess*: 123, *poker*: 110, *tag*: 86. A Spearman rank-order correlation test showed that neither FRSs based on eight nor those based on six items proved to be correlated with the results of the Likert-scale ($r_s = -.262$, and $r_s = .429$, respectively) in the American data. For the Hungarian data, the scores of the eight items are as follows: *Activity*: 182, *soccer*:

106, *tag*: 145, *Scrabble*: 185, *poker*: 111, *chess*: 110, *life*: 168, *school*: 149. If we exclude *life* and *school*, the numbers are the following: *Activity*: 133, *soccer*: 87, *tag*: 89, *Scrabble*: 137, *poker*: 92, *chess*: 89. There was no correlation between the Likert-scale ratings and family resemblance scores in either case ($r_s = .000$ in both cases).

Ashcraft (1978), investigating 17 categories, found that the three variables that best predict typicality were the average number of properties listed for a category member, the dominance of the superordinate category, and the percentage of property overlap between member and category. Whereas my data do not lend themselves to the statistical analysis he carried out, it is nevertheless of interest to calculate the numbers. (Following Ashcraft's method, I disposed of the idiosyncratic attributes for these calculations).

Number of attributes: Table 4.3.2 shows the mean number of attributes listed for an item in the two language groups. Items are ranked in a descending order, based on the average number of attributes listed for them. That is, higher ranked items had more attributes listed.

Table 4.3.2. The average number of attributes listed for an item in the two language groups in a descending order (after disposing of idiosyncratic attributes)

American			Hungarian		
Rank	Game	Average number of attributes	Rank	Game	Average number of attributes
1	School	9.375	1	Chess	6.24
2	Poker	8.225	2	Soccer	6.07
3	Life	7.175	3	Tag	4.71
4	Football	6.87	4	School	4.025
5	Chess	6.24	5.5	Life	3.825
6	Monopoly	6.1	5.5	Poker	3.825
7	Tag	4.5	7	Scrabble	3.71
8	Scrabble	3.8	8	Activity	3.225

The American list is headed by *school*, which ranked lowest on the Likert -scale out of these eight items. Other items that rank substantially (more than three places away)

differently than on the Likert-scale are *life*, *Monopoly*, and *Scrabble*. On the Hungarian list, *chess*, *school*, and *Activity* are the most off- Likert scale (more than three places away).

Attribute-overlap: Table 4.3.3 shows the percentage of attribute overlap- the percentage of the properties of the item that were also listed for the superordinate.

Table 4.3.3. Percentages of property overlap b/w item and category in a descending order organized by language groups (after disposing of idiosyncratic attributes)

American			Hungarian		
Rank	Game	%	Rank	Game	%
1	Scrabble	32	1	Activity	41.93
2	Tag	26.8	2	Scrabble	25
3	football	24	3	tag	23.25
4	Monopoly	20	4	poker	18.75
5	chess	18	5	life	13.95
6	Life	15.87	6	soccer	8.33
7	poker	12	7	school	7.89
8	school	9.8	8	chess	5.77

The order of items in this table is somewhat closer to the Likert-scale order than on the previous measure. On the American list, only *tag* is more than two places off. On the Hungarian list, only *soccer* is in the same situation.

Dominance of the superordinate: Table 4.3.4 gives information on the dominance of the superordinate category; that is, what percentage of the participants name the term GAME for an item.

Table 4.3.4. Percentage of the respondents that name the superordinate term GAME for each item in a descending order organized by language groups (after disposing of idiosyncratic attributes)

American			Hungarian		
Rank	Game	Percentage	Rank	Game	Percentage
1	Monopoly	37.5	1	Tag	42.86
2	Scrabble	30.49	2	Poker	37.5
3	Tag	21.74	3	Activity	33.33
4	Poker	20	4	Chess	16.67
5	Football	17.39	5	Scrabble	14.29
6	Chess	13.04	6	Soccer	9.5
7	Life	0%	7	Life	5%
8	School	0%	8	School	5%

These lists are again more different from the order of the typicality –rating. On the American list, *tag* and *football* are three or more places apart, whereas on the Hungarian, *poker* and *soccer* are. Note, however, that *life* and *school* are the clear last items on both lists.

Altogether, these four measures only very partially support previous results. We may speculate that the lack of significant correlation between family resemblance scores and typicality ratings is probably attributable to the very varied nature of these games. In the future, inclusion of more items of the same type of games (sports, board games) may help arrive at firmer conclusions. On the topic of the average number of attributes listed, Ashcraft reasons that more typical items are more familiar and therefore we have a more detailed picture of them in our minds, which leads to more attributes. Clearly, my data do not unequivocally support his findings. With GAME, less typical items are not necessarily lesser known (see *chess* for Hungarians and *poker* for Americans, and *school* and *life* for both groups). On this list, the low rating of *Scrabble* for both groups is prominent. It may indicate that there is a limited number of attributes that most respondents strongly associate with this game and list only those. The property overlap table (Table 4.3.3), combined with the previous one, the average number of attributes, reveal some very interesting information. Most items change their position; that is, items for which fewer attributes were listed had actually attributes that overlap more with those of GAME, and vice versa, items with more attributes had smaller overlap with the superordinate. This trend is especially conspicuous with *Scrabble*, *Activity*, *chess*, *soccer*, and *school* in the Hungarian data and *school*, *poker*, *life*, *tag* and *Scrabble* in the American. Based on the typicality ratings, in the Hungarian data, only *soccer*'s percentage comes as a surprise,

whereas in the American, only *tag* seems to be off. These findings suggest that for this category, property overlap with the superordinate is a better predictor of typicality than the average number of attributes listed. This supports Hampton's (1979) findings and is clearly a result worth further investigation. The picture is more varied again with the naming of the superordinate measure: for Hungarians, *poker* and *soccer* contradict their typicality rating, whereas in the American data, *football* is too low and *tag* is too high. This Hungarian finding may partially be explained by the particulars of the language: the compounds children's game (gyerekjáték), card game (kártyajáték) and board game (társasjáték) –possibly evoked by the high ranking items *tag*, *poker*, and *Activity*, seem to be more often used than the compound sports game (sportjáték), which may be called to mind by *soccer*. With the American data, *football* does not seem to work this way: even though *football game* is a common compound, *game* is less frequently listed as an attribute of *football* than of some other games. Apparently, this language phenomenon does not translate straightforwardly into an attribute. Most generally, the category concept GAME seems to correspond to Hampton's (1981) abstract categories in that it only partially exhibits findings of more concrete prototype categories.

4.3.2. Presentation and discussion of the attribute lists of the category GAME and of eight individual instances

What follows is a presentation and discussion of the results of the attribute listing survey organized by items. For each item, the 15-20 most important attributes were identified (see *Method*, p.70, for the calculations). To facilitate the ease of reading, a short discussion of the results immediately follows the presentation of the results for each

game. More general findings are brought together in the next section, the conclusion to the chapter.

Table 4.3.5. The scores, frequency, and mean position of the most important attributes of **GAME** in the two language groups

American (n = 40)					Hungarian (n = 54)				
Rank	Attribute	score	f	M	Rank	Attribute	score	f	M
1	fun	78	18	3.22	1	fun (szórakozás)	76	19	4.16
2	win	63	16	3.75	2	ball (labda)	58	15	3.47
3	competition	47	12	4.25	3	soccer	56	13	3.08
4	sports	44	11	3.91	4	board game	53	14	4.43
5	play	42	10	3.8	5	cards (kártya)	51	13	4.15
6.5	basketball	39	11	5.09	6.5	children(gyerekek)	46	10	2.5
6.5	football	39	11	5.18	6.5	chess	46	13	5.00
8	lose	35	11	5.18	8	computer	39	12	5.42
9	baseball	31	9	5.44	9	sports	38	12	5.33
10	teams	25	8	5.5	10.5	free time (szabadidő)	36	9	4.11
11.5	loser	22	7	6.29	10.5	joy (öröm)	36	12	5.67
11.5	winner	22	6	5.00	12	relaxation (kikapcsolódás)	33	9	4.11
13	soccer	21	6	4.67	13	cheerfulness (jókedv)	32	9	4.33
14.5	ball	19	5	4.4	14	hilarity (vidámság)	31	9	4.67
14.5	player	19	7	6.71	15	doll (baba)	26	7	4.14
16.5	entertainment	17	6	5.83	16	company (társaság)	25	9	6.44
16.5	exciting	17	5	4.2	17	basketball	21	5	3.4

As Table 4.3.5 shows, the most important attribute of GAME was ‘fun’ for both populations. Apart from this, however, we can detect remarkable differences. For Hungarians, the ‘real’ attributes, that is, words that do not denote a toy (‘ball’) or an actual game (‘soccer’) most of all evoke a sense of ease, of being devoid of concerns. Words like ‘free time’, ‘joy’, ‘relaxation’, ‘cheerfulness’, ‘hilarity’ belong here. The emerging notion of GAME being related to children is confirmed by this word’s high rating as well as by the naming of the children’s toy ‘doll.’ ‘Company’ hints at the social dimension of GAME. On the other hand, for Americans, what dominates besides ‘fun’ is a sense of competition. This is attested by the words ‘win’, ‘competition’, ‘lose’, ‘loser’, and ‘winner.’ The only word corresponding to the Hungarian domain of ease is

‘entertainment.’ Americans also do not associate to children readily when thinking of GAME. Both groups named actual games as well. For Americans, these are all sports (‘basketball’, ‘football’, ‘baseball’, and ‘soccer’) whereas Hungarians provide a mix (‘soccer’, ‘board game’, ‘cards’, ‘chess’, ‘computer’, ‘basketball’). Finally, comparing these lists to that of Hampton’s (1987) from Great Britain, we find that for Americans, the only shared attribute is ‘fun.’ Nevertheless, two more attributes, ‘teams’ and ‘competition’ are present in the British conjunction categories (SPORTS THAT ARE ALSO GAMES and GAMES THAT ARE ALSO SPORTS). Similarly, for Hungarians, the only shared attribute is ‘fun.’ At the same time, the Hungarian ‘company’ and ‘relaxation’ may be seen as synonyms for the British ‘for two people or more’ and ‘recreational,’ respectively.

Table 4.3.6. The scores, frequency, and mean position of the most important attributes of *chess* in the two language groups

American (<i>n</i> = 46)					Hungarian (<i>n</i> = 42)				
Rank	Attribute	score	f	M	Rank	Attribute	Score	f	M
1	pawn	100	24	3.625	1	black and white (fekete-fehér)	95	20	2.3
2	king	90	24	4.04	2	pieces (bábuk)	73	18	3.33
3	queen	66	20	4.7	3	board (tábla)	43	12	5.00
4.5	smart	57	11	1.91	4	logic (logika)	41	11	4.55
4.5	strategy	57	17	5.00	5	competition (verseny)	34	10	5.4
6	board	51	14	4.57	6	knight (ló)	30	8	4.13
7	checkmate	50	16	5.625	7	brains (ész)	29	7	3.43
8.5	knight	49	14	4.64	8	game (játék)	28	7	4.14
8.5	rook	49	14	4.71	9.5	thinking (gondolkodás)	25	7	4.71
10	nerds	43	9	2.22	9.5	time (idő)	25	8	5.00
11	boring	38	8	2.375	11.5	intelligence (intelligencia)	24	6	4.17
12	pieces	32	9	4.89	11.5	rook (bástya)	24	9	6.44
13	bishop	28	8	4.375	13	strategy (stratégia)	22	6	4.5
14	game	25	6	4.00	14.5	king (király)	20	8	7.25
15.5	old	21	7	5.57	14.5	tactics (taktika)	20	6	4.33
15.5	black and white	21	6	4.67	18	black (fekete)	19	5	3.00
17.5	thinking	20	5	3.6	18	boring (unalmas)	19	4	2.25
17.5	intelligence	20	5	4.2	18	clock (óra)	19	7	6.00
					18	pawns (parasztok)	19	8	7.00
					18	queen (királynő)	19	9	8.67

Looking at Table 4.3.6, the most striking difference in these two lists is that whereas Americans first of all mention individual pieces ('pawn', 'king', 'queen', etc), Hungarians name the cover term 'pieces' more often than any individual piece. It is also interesting that when they do name a piece, 'knight' comes quicker to mind than any other. (This is demonstrated by its lower mean position in the list of attributes, even though its frequency is not higher than that of other pieces). For Americans, this piece does not possess this prominence. We can only speculate whether history is at play here. It also appears that for Americans, *chess* brings to mind attributes that invoke a more static picture (attributes like 'strategy', 'nerds' 'boring' and 'old') than for Hungarians. For the latter group, 'tactics' is mentioned as often as 'strategy', and 'competition' is also an important attribute. So, for Hungarians it is more important to name the dynamic attributes of *chess*. For Americans, the somewhat negative image triggered by attributes like 'nerds', 'boring', and 'old', dominates even over the mental skills necessary to play good chess ('thinking', 'intelligence'). What seems to be similar for the two groups is that no attributes of the superordinate category GAME from their respective list come up, even though the category itself is mentioned by 13% (USA) and 17% (HUN) of the participants.

Table 4.3.7. The scores, frequency, and mean position of the most important attributes of *Scrabble* in the two language groups

American (n = 46)					Hungarian (n = 42)				
Rank	Attribute	score	F	M	Rank	Attribute	score	f	M
1	words	194	35	1.46	1	letters (betűk)	88	17	1.82
2	game	63	14	2.93	2	word (szó)	83	17	2.53
3	letters	53	13	3.92	3	thinking(gondolkodás)	36	10	4.3
4	points	43	13	4.46	4	family (család)	33	9	4.00
5	dictionary	38	10	3.4	5	board game	32	7	2.71
6	vocabulary	35	9	4.00	6	game	26	6	2.67
7	spelling	33	10	5.5	7.5	creativity (kreativitás)	25	7	5.00
8	board	32	8	3.5	7.5	friends (barátok)	25	7	5.29
9	board game	28	6	2.67	9.5	vocabulary (szókincs)	21	7	5.71
10	pieces	25	6	2.83	9.5	word game (szójáték)	21	4	2.5
11	fun	23	5	2.4	11	brainwork (agymunka)	19	4	3.25
12	family	18	5	3.6	12.5	logic (logika)	18	4	3.25
13	boring	12	2	1.00	12.5	word formation (szóképzés)	18	6	6.17
14	triple word score	11	3	3.67	14	points (pontok)	17	7	6.86
15	wooden pieces	10	3	4.67	15	laughing (nevetés)	14	4	5.5

Table 4.3.7 displays the most important attributes of *Scrabble*. Interestingly, for Americans, the single attribute ‘words’ ranks by far the highest. For Hungarians, ‘letters’ and ‘words’ are of equal prominence. This finding seems to contradict previous results, where Hungarians displayed a more holistic approach to the category (naming superordinate terms more often than individual games). We may speculate that the fact that many Hungarians play the English version of the game, thus running into spelling issues, explains why ‘letters’ are such an apparent attribute for them. As we go down the list, though, more specific items like ‘dictionary’, ‘vocabulary’, ‘spelling’, and ‘triple word score’ do come up for Americans, whereas Hungarians stay at the more abstract level, listing qualities needed: ‘thinking’, ‘creativity’, ‘brainwork’, ‘logic.’ Some form of the superordinate (‘game’, ‘board game’, or ‘word game’) come up for 43% of the American and 40% of the Hungarian respondents. These are rather high numbers considering that out of the superordinate’s attributes, only ‘fun’ is present in the

American list, whereas Hungarians repeat only ‘board game’(even though ‘laughing’ does suggest the notion of ease, so characteristic for GAME).

Table 4.3.8. The scores, frequency, and mean position of the most important attributes of *tag* in the two language groups

American (n = 46)					Hungarian (n = 42)				
Rank	Attribute	score	f	M	Rank	Attribute	score	f	M
1	running	118	25	2.72	1	children (gyerekek)	115	23	2.09
2	you’re it	83	17	2.41	2	game	91	18	2.28
3	kids	66	15	3.2	3	childhood (gyerekkor)	52	11	3.36
4	fun	48	13	4.31	4	running (futás)	51	14	3.86
5	game	43	10	2.9	5	kindergarten (óvoda)	48	12	4.42
6	children	38	8	2.625	6	laughing (nevetés)	26	10	6.1
7	childhood	37	7	1.71	7	‘it’ (fogó)	23	7	5.14
8	run	32	6	1.67	8	chasing (kergetőzés)	22	5	3.2
9	recess	29	4	5.75	9	exhilaration (felszabadultság)	18	5	4.6
10	playground	26	7	4.00	10	fall (elesik)	16	6	6.67
11	laughing	19	7	5.86	11.5	elementary school (általános iskola)	15	3	2.00
12.5	elementary school	18	4	3.00	11.5	speed (gyorsaság)	15	3	2.00
12.5	play	18	5	4.6	13.5	hilarity (vidámság)	13	4	5.5
14.5	outside	17	5	5.2	13.5	ease (gondtalanság)	13	3	2.67
14.5	freeze	17	4	3.00					

What immediately strikes the investigator looking at Table 4.3.8 is again the discrepancy in the level of specificity of attributes between the two groups. For Hungarians, ‘children’ and ‘game’ stand out, while Americans start with the more concrete ‘running’ and ‘you’re it.’ 43% of the Hungarians name the superordinate category; this, together with the strong association of *tag* with ‘children’ and ‘hilarity’, seems to explain the high elicitation frequency and the high Likert-scale rating of this game in the first two surveys. Conversely, for Americans, this link to childhood (demonstrated by ‘kids’, children’, ‘childhood’, ‘playground’) may be the very reason why *tag* was less frequently elicited in the first survey and rated low on the typicality scale in the second survey. Also, even though ‘game’ is the fifth attribute, the 22% of Americans that mention it is much less than the Hungarian figure, as well as the same statistic for *Scrabble* in the American data.

Table 4.3.9. The scores, frequency, and mean position of the most important attributes of *football/soccer* in the two language groups

American (n =46)					Hungarian (n = 42)				
Rank	Attribute	Score	f	M	Rank	Attribute	score	f	M
1	touchdown	40	14	6.21	1	ball (labda)	65	16	3.75
2	game	36	8	3.00	2	World Cup (VB)	50	13	3.85
3	pads	29	7	3.71	3	men (férfiak)	47	11	3.00
4	field	28	7	4.29	4	sport	35	7	2.57
5	sport	26	5	2.00	5.5	green (zöld)	33	7	2.71
6.5	helmet	25	7	4.29	5.5	team (csapat)	33	8	3.63
6.5	quarterback	25	8	6.25	7.5	beer (sör)	27	9	6.89
8.5	cheerleaders	23	7	5.00	7.5	fans (szurkolók)	27	9	6.44
8.5	player	23	7	5.00	9	vandalism (vandalizmus)	26	6	3.83
11	1 st down	19	4	3.00	10	gate (kapu)	23	8	5.63
11	contact	19	4	2.75	11	jersey (mez)	22	7	5.14
11	referees	19	6	6.00	12.5	field (pálya)	21	6	5.83
13	uniforms	18	5	4.8	12.5	referee (biro)	21	7	5.71
15.5	crowd	17	4	4.25	15	match (meccs)	18	3	1.00
15.5	hitting	17	5	5.2	15	Puskas Öcsi	18	4	2.5
15.5	win	17	5	5.6	15	running around (rohangálás)	18	4	2.5
15.5	yard lines	17							

What is most noticeable in Table 4.3.9 is the small range of the scores, especially in the American data. This suggests that no one or two attributes dominate the mental pictures participants create when thinking of this game. For Hungarians, ‘ball’ does stand out to a small extent. Three attributes (‘sport’, ‘player’, and ‘win’) from the list for GAME come up here for Americans, and ‘game’ itself is the second most important attribute, being mentioned by 17% of the respondents. Even though it is the second highest scoring attribute, the 17% is a relatively low figure (see Table 4.3.4) that contradicts *football*’s conspicuity, - demonstrated by the previous two surveys, - among games. At this point we can speculate that ‘game’ to *football* is just so inherent that mentioning it is somewhat redundant. For Hungarians, ‘ball’ and ‘sports’ are the two attributes that appear here from the GAME list; ‘game’ is mentioned by four respondents (9.5%). This may partly be explained by a linguistic fact: in Hungarian, a “soccer game” is translated as a “soccer match”- “játék” is not used in this context. This list does not explain at all why *soccer* is a

typical, even though not a prototypical, game for Hungarians. Again, we may suspect a deeper explanation or simply need more data. If we compare the two lists, the specific versus general differentiation between the two language groups plays out again:

Americans often mention terms that are more specific to *football*, like ‘touchdown’, ‘yard lines’, ‘quarterback’, ‘1st down.’ Hungarians’ most specific mentions are two proper names: the event World Cup and the diminutive of the perhaps most famous Hungarian soccer player ever, Ferenc Puskás, alias Puskas Öcsi (who had just died at the time of the data collection, which may explain his foregroundedness in people’s mind).

The next table, Table 4.3.10 shows the results for *poker*.

Table 4.3.10. The scores, frequency, and mean position of the most important attributes of *poker* in the two language groups

American (n=40)					Hungarian (n = 40)				
Rank	Attribute	score	f	M	Rank	Attribute	score	f	M
1	money	125	29	3.38	1	cards (kártya)	127	24	1.75
2	cards	108	25	3.28	2	game	73	15	2.4
3	gambling	69	16	4.06	3	money(pénz)	62	17	3.47
4	chips	67	18	4.28	4	poker face (pókerarc)	29	8	5.00
5.5	betting	32	8	4.125	5	smoke (füst)	29	7	3.71
5.5	game	32	8	3.5	6	cheating (csalás)	27	8	4.38
7	Texas ‘old them	28	9	6.00	7	luck (szerencse)	21	6	4.67
8	cigars	25	8	5.375	8	film (film)	16	5	4.8
9.5	strait	24	10	7.3	9	gambling (kockázat)	14	3	2.33
9.5	win	24	8	5.25	10	bluffing (bluff)	13	4	4.5
11	table	22	8	6.25	12	casino (kaszinó)	12	4	4.5
12	full house	19	8	7.625	12	green (zöld)	12	4	5.00
13	royal flush	18	10	8.7	12	tactics (taktika)	12	3	4.00
14	bets	16	5	5.2	14	roundtable (kerekasztal)	11	3	4.33
16.5	cheating	14	4	5.00	15.5	hobby (hobbi)	10	2	2.00
16.5	lose	14	6	6.5	15.5	winning (nyerés)	10	3	4.00
16.5	poker chips	14	4	5.5					
16.5	winner	14	4	4.5					

Table 4.3.10 reveals that in connection with *poker*, for the American participants, ‘money’ and ‘cards’ stood out. ‘Gambling’ and ‘chips’ constitute the second group, followed by a gradual drop in the scores of the subsequent items. The Hungarian

population mentioned ‘cards’ much more often than any other attribute; ‘game’ and ‘money’ make up the second group, again, the rest of the attributes decline gradually in frequency. In the American data, ‘win’, ‘lose’, and ‘winner’ appear from the GAME list, while 20% name the superordinate ‘game.’ For Hungarians, from the attributes of GAME only ‘cards’ is here; however, 37.5% name the superordinate. Thus, at this point it is still questionable why *poker* was not rated higher in the Likert-scale for either group. Based on the attributes, we can only speculate whether the prominence of money, the chance-like nature (‘gambling’, ‘luck’, ‘casino’) and the somewhat negative notion (‘cheating’) of the game are to blame. A big difference between the two groups is that while Americans name actual card combinations (‘strait’, ‘full house’, ‘Royal Flush’), Hungarians remain at a more generic level.

Next, the attributes of *Monopoly/Activity* will be presented and discussed.

Table 4.3.11. The scores, frequency, and mean position of the most important attributes of **Monopoly/Activity** in the two language groups

American (n=40)					Hungarian (n = 40)				
Rank	Attribute	score	f	M	Rank	Attribute	score	f	M
1	money	122	29	3.07	1	game	76	14	1.79
2	game	83	15	1.6	2	laughing (nevetés)	44	10	3.2
3	board game	48	9	2.11	3	company (társaság)	37	8	2.75
4	boardwalk	42	10	3.9	4	fun (szórakozás)	32	7	2.86
5	houses	29	11	7.27	5	friends (barátok)	31	7	3.00
6	pieces	27	6	2.5	6	pantomime (mutogatás)	29	8	3.88
7	business	24	7	4.86	7	creativity (kreativitás)	26	6	3.17
8	jail	20	9	8.11	8	drawing (rajz)	23	7	4.29
9	dice	19	7	6.29	9	cheerfulness (jókedv)	22	5	3.2
10.5	fun	18	5	4.8	10	team (csapat)	19	5	4.00
10.5	long	18	5	5.00	11	board game	17	3	1.33
12.5	hotels	16	7	7.57	12.5	diversion (időtöltés)	16	3	1.67
12.5	thimble	16	6	7.00	12.5	entertainment (móka)	16	4	3.75
14.5	property	15	5	6.00	14	sport	15	3	2.00
14.5	winner	15	4	4.5	15.5	dexterity (ügyesség)	13	3	3.33
					15.5	television	13	4	4.00

As Table 4.3.11 attests to, for Americans, ‘money’ stands out even more with *Monopoly* than it does with *poker*. The most important attribute of GAME, ‘fun’ comes up here, as well as ‘winner.’ Moreover, 37.5% of the participants name the superordinate ‘game’ and 22.5% name ‘board game.’ Maybe these latter facts somewhat reciprocate the effects of ‘money’, - which is, on the basis of *poker*, thought to have a negative effect on the game-likeness of items at this point- and thus place *Monopoly* as rank 5 on the Likert-scale. It is interesting to note, however, that the two items *Monopoly* and *poker* were in the same z – score groups for Americans. For Hungarians, the superordinate ‘game’ stands out, mentioned by 35% of the respondents. An additional 3.5% name ‘board game.’ Four more attributes, ‘fun’, ‘sports’, ‘cheerfulness’ and ‘company’ are also here from the GAME list. These, together with ‘laughing’, ‘diversion’, and ‘entertainment’ seem to evoke enough “ease”, associated with games, to put this item at the top of the list. If we compare the two lists, we can see that Hungarians to some extent name what actually happens- ‘pantomime’, ‘drawing’-but also recall qualities needed: ‘creativity’, ‘dexterity.’ Americans describe the physical appearance of the game board in more details: ‘boardwalk’, ‘jail’, ‘houses’, ‘hotels.’

The next table presents *life*.

Table 4.3.12. The scores, frequency, and mean position of the most important attributes of *life* in the two language groups

American (n =40)					Hungarian (n = 40)				
Rank	Attribute	score	F	M	Rank	Attribute	score	f	M
1	family	85	24	4.67	1	happiness (boldogság)	53	12	3.42
2	friends	59	17	4.82	2	death (halál)	44	11	4.09
3	fun	53	16	5.5	3	family (család)	38	12	5.42
4	love	48	15	5.67	4	friends(barátok)	33	10	4.8
5	death	40	12	6.67	5.5	short (rövid)	29	6	2.5
6	God	34	11	5.18	5.5	work (munka)	29	8	4.25
7	happiness	27	12	7.83	7	long (hosszú)	21	5	4.2
8	stress	24	5	2.8	8	birth (születés)	16	3	1.67
9	people	22	5	3.4	11.5	fighting (küzdelem)	12	4	6.5
10	work	21	8	6.625	11.5	goals (célok)	12	3	3.67
11	success	19	7	6.00	11.5	good (jó)	12	3	4.67
12	hard	18	5	4.6	11.5	hilarity (vidámság)	12	3	3.67
13	goals	16	4	4.25	11.5	responsibility (felelősség)	12	3	3.67
14	jobs	14	4	5.5	11.5	sadness (szomorúság)	12	3	3.00
15.5	friendship	13	3	3.33					
15.5	money	13	9	9.89					

It is with great excitement that we turn to Table 4.3.12, hoping for some explanation as to the relatively low ratings of *life*. For Americans, ‘family’ leads the way; ‘fun’, being mentioned by 40% of the respondents, is the only attribute from the GAME list. The superordinate itself is not mentioned at all. This, together with the negative image invoked by ‘death’, ‘stress’, and ‘hard’, may make *life* less of a game, even though elements of competition, like ‘success’ or ‘goals’ are present. For Hungarians, no attribute stands out. Only two participants (5%) name the superordinate GAME, and one attribute, ‘hilarity’ is here from the GAME list. It seems easier to explain why *life* is less of a game for Hungarians: it just seems too much work with too little joy, demonstrated by the attributes ‘work’, ‘fighting’, ‘responsibility’, and ‘sadness.’ While six of the attributes overlap in the two lists, the American picture is somewhat more optimistic (‘fun’, ‘happiness’, and ‘success’ versus ‘happiness’ and ‘hilarity’), lacking the outright negative

‘sadness.’ ‘Death’, of course, may have been evoked by the oft collocations ‘life and death’ for both groups.

Lastly, Table 4.3.13 shows the results of the attribute-listing for *school*.

Table 4.3.13. The scores, frequency, and mean position of the most important attributes of *school* in the two language groups

American (n =40)					Hungarian (n = 40)				
Rank	Attribute	score	f	M	Rank	Attribute	score	f	M
1	teachers	100	27	4.26	1	learning (tanulás)	118	22	1.86
2	homework	61	18	5.44	2	teachers (tanárok)	68	15	2.73
3	learning	56	15	4.87	3	friends (barátok)	44	12	4.42
4	books	54	17	6.24	4	college (egyetem)	30	6	2.5
5	friends	38	14	6.93	5.5	knowledge (tudás)	27	6	2.83
6.5	pencils	37	12	6.08	5.5	students (diák)	27	6	2.5
6.5	education	37	9	3.78	7	tests (dolgozatok)	25	7	4.43
8	desks	36	15	7.13	8	desks (pad)	23	5	2.6
9	students	35	11	5.64	9	books (könyvek)	19	6	4.33
10.5	class	27	9	5.89	10	board (tábla)	17	4	3.5
10.5	study	27	7	4.43	11.5	exam (vizsga)	16	5	4.4
12	pens	25	12	9.08	11.5	obligations (kötelesség)	16	3	1.67
13	paper	24	12	8.42	13	education (oktatás)	12	3	4.00
14.5	tests	23	12	8.17	14	quizzes (felelés)	11	3	4.67
14.5	work	23	6	5.33	15	food court (menza)	10	3	6.00
16	professors	16	7	8.00					
17	studying	14	4	5.00					

For Hungarians, ‘learning’ stands out far ahead, and ‘teacher’ also constitutes its own group in the second place. Conversely, for Americans, ‘teachers’ leads the way. Neither group has an attribute from their respective GAME list here; the superordinate term ‘game’ was mentioned by two Hungarians (5%) and by no American. These last two facts may explain why *school* rates so low in the Likert-scale of both groups. Seven attributes overlap across the two lists and the general sense of ‘duty’ permeates both inventories. Nevertheless, corresponding to the dominance of ‘learning’, Hungarians seem to emphasize this dimension more with words like ‘knowledge’, ‘tests’, ‘exam’, and ‘quizzes’; whereas Americans put more stress on the physical paraphernalia like ‘pencils’, ‘pens’, ‘paper.’

4. 4. Conclusion to the survey results

The three quantitative surveys described and discussed in this chapter sought an answer to the first research question regarding the similarities and differences in typical and less typical members of the category GAME for speakers of American English and Hungarian. Before addressing that question, however, I review what the attribute listing survey revealed about this category compared to other previously examined prototype categories. A robust finding of previous research was a strong correlation between typicality and family resemblance scores (Rosch & Mervis, 1975). This did not prove to be the case with the current category. There is a host of possible reasons for this inconsistency: the limitations of the study, among them the small number of items that underwent attribute-listing may be one reason. Or it may be the case that the category is just too huge with too many unlike members. Further research is a must to resolve this finding. As for other previous findings, even though statistical significance was not tested here, the naming of the superordinate, and even more, the percentage of property overlap between an item and the superordinate suggest that the category does exhibit formerly established traits of prototype categories. Moreover, if we consider the truncated attribute lists presented in the section 4.3.2, for Hungarians, the highest rated game, *Activity*, shares five of the most important attributes with GAME. This unquestionably supports a main idea of prototype theory, namely, that concepts are represented by their most important attributes, “as a region in semantic similarity space centered on a particular point corresponding to the most typical potential example of the category” (Hampton, 2006, p. 101). Also, 38.5% name the superordinate category name GAME for *Activity*.

The next two items, *soccer* and *tag*, share two of GAME's most important attributes, whereas the other items, one or zero. The American picture is fuzzier in this respect but the need for further investigation is established.

A further interesting contribution of the attribute-listing survey was to confirm the tendency of Hungarians, noticed in the elicitation survey, to stay on more general terms when naming or describing games. While in the latter this was attested to by naming a cover term instead of an actual game, in listing attributes, Hungarians' tendency to name qualities and attributes of the atmosphere instead of the concrete physical setup verify this inclination.

Finally, Americans' list of attributes for the superordinate GAME resembles more the list of attributes for sports or for the conjunction of sports and games rather than that of games found by Hampton (1979, 1987) in Great Britain. Hungarians, on the other hand, do not seem to ascribe a dominant role to sports in identifying the attributes of games.

Possessing the results of the third quantitative survey, we can elaborate on the answer to the first research question provided after the Likert-scale survey. We have seen that in the case of Americans, the status of utmost archetypicality is preserved solely for the big sports. Examining the attributes reveal that three of them, 'sports', 'play', and 'win' are shared by *football* and the superordinate. 'Teams' is also a prominent attribute of GAME, which may explain why other sports like *tennis* or *golf* place behind *football* etc, and why sports like *wrestling*, *running*, and *swimming*, were hardly elicited. *Monopoly*, we may suspect, is one notch lower because of its gameness being modified by 'board.' So, a prototypical board game, even if it is 'fun', is less of a game than a

prototypical sport. For Hungarians, the order is the opposite: board games are more typical GAMES than sports. This finding is understandable considering the fact that *Activity*, a typical board game, shares five of the most important attributes with GAME; also, 38.5% name the superordinate category. These statistics with *soccer* are two and 9.5%, respectively; in fact, *soccer*'s high rating on the Likert-scale may be somewhat surprising if we look at the attributes, which evoke more of a sad picture of the game, where hooliganism dominates. Until further investigation we may only speculate that *soccer* is somehow inherently, culturally thought of as a game. If we move further out from the core of the category, some items in the next two tiers are also in a reverse order for the two groups. For Hungarians, outside physical activities like *tag* and *Frisbee*, as well as word games like *Scrabble* come first followed by some card games like *poker*, and then by *chess*; the order is somewhat the opposite for Americans: *Scrabble* and *chess* go first, followed closely by *poker* and finally comes *tag*. What the attributes reveal is that *tag*'s high position in the Hungarian data is ascribable to its strong link to children and to the sense of joy. It appears that for Americans, these very features contribute to the less game-like image of this activity. At the same time, the high rating of *Candy Land* on the American Likert-scale is still an unsolved puzzle. The middle ground, represented by *Scrabble*, *poker*, and *chess* in the Hungarian data, could be partially explained by the combined effect of the naming of the superordinate and the number of the most important attributes that overlap with the superordinate. What distinguishes *Scrabble* here from *poker* and *chess*, and thus puts it closer to *tag*, is its association with friends and joy. *Poker* and *chess* are just too serious, although in a different sense: while with *chess*, 'thinking' dominates, *poker* calls to mind the world of smoke and casinos known from

western films. *Chess*'s relatively high rating among Americans, considering its low naming of the superordinate and its not sharing any important attribute with GAME, remains a mystery at the moment. This obscurity extends to *poker*; it shares three important attributes with GAME and the superordinate's naming is in the middle range, and it was also elicited relatively frequently, so we would expect higher rating. If we search for an explanation among the attributes, the outstanding role of real 'money' (as opposed to the fake money of *Monopoly*) is apparent. Certainly, there is enough money in sports as well; nevertheless, respondents did not readily think of this aspect when asked about *football*. As Eubanks (2000) observes, if we think in term of metaphors, high-stakes *poker*, through business, is probably more associated with war than with game. *Scrabble* shares only one attribute with GAME, but it is the all-important 'fun'; also, 43% of the respondents name the superordinate, which may be the reason for this game faring higher in the Likert-scale. Just to repeat, in the American data, *chess*, *Scrabble*, and *tag* were all in the same z -score group, and their elicitation frequencies were also close (12-16%); it is the contradictory results of the attribute listing survey that raises the question of why. The attribute-list of GAME seems to provide an answer to the big discrepancy between the rankings of the two-word games *Blurt* and *Scrabble* on the American Likert-scale: *Scrabble*, with all the scores around on the board, probably comes across as more competitive than *Blurt*, which lacks such props, even though it is also a race.

The attribute list for GAME allows us to speculate about items not included in the attribute-listing survey. Thus, the low ratings (relative to other items) and elicitation of *crossword puzzle* may be accounted for by its lack of competition and winning for Americans, and for Hungarians, by its lack of hilarity. *Frisbee* is in the same situation for

the American respondents; however, Hungarians may have rated it higher because of the joy and relaxation connected with it. Or take *badminton*. Its high rating (rank 3) for Hungarians can easily be understood if we know that in spite of being a sport, it is most often played as a pastime activity on the beach, in the yard, on in a blind alley, where the actual aim is to keep the shuttlecock in play as long as possible (as opposed to the competitive sport version, where the point is to hit so that the opponent cannot return). Americans may perceive this sport as less exciting than those involving teams, hence its somewhat lower rating. Returning back to the items included in the attribute listing, we reach the metaphorical extensions *life* and *school*. For both groups, they are situated around the periphery, although for Americans, the four extensions (*life*, *sex*, *school*, and *chatting*) do not constitute a separate marginal group. For Hungarians, on the other hand, there is a 1.33 – point drop between the highest of these four (*sex*, 3.48), and the previous item (*crossword puzzle*, 4.81). So, even though Hungarians rate *school* significantly higher than Americans, it is more of a peripheral item for them. Looking at the attributes listed, for Hungarians, *life* and *school* appear too serious to be typical games, whereas for Americans, either the element of competition or the opportunity to win is missing. What may make *life* more of a game is its relation to ‘fun’ and ‘success’ for Americans, and to ‘happiness’ and ‘hilarity’ for Hungarians.

In short, the three quantitative measures provided an abundance of data that allow us to assert certain claims about the way the category of GAME is thought of for these populations of speakers of American English and Hungarian. The next two steps, the semi-structured interviews and the text- analyses strive to contextualize some of the current findings.

CHAPTER 5

QUALITATIVE DATA

This chapter presents the findings yielded by the qualitative inquiry tools employed to answer Research questions II, III, and IV. Answering these questions aimed at contextualizing the discoveries of the quantitative part as well as connecting language to cognition. More specifically, the second research question looks for themes that emerge in the interviews in relation to experience with and perception of games. The third research question asks for links between the findings of a domain analysis of metaphors of chess and the findings of the first two questions. Lastly, the fourth research question aims at establishing connections between syntactic forms and semantic content used to describe certain chess phenomena and the picture of *chess* that surfaced in relation to the first three questions. In the first section of this chapter, the findings of follow-up interviews will be described and discussed. A domain analysis of metaphoric expressions will follow. Finally, the third section explores the connection between syntactic forms and their interpretation used in chess games analyses from a cognitive linguistic point of view. In the second and third sections, example sentences are continuously numbered, and are prefixed by A (American) and H (Hungarian).

5.1. Interviews

Follow-up interviews with 6 American and 8 Hungarian volunteers from the participants of the different surveys were conducted. The overall aim of the interviews was to find contextual variables for the static findings of the quantitative surveys. To that

end, interview questions had multiple foci: some sought clarification to specific answers on the survey; others elicited descriptions of lived experience with games; whereas a group of the questions targeted special issues, for example the distinction between sports and games or the overall opinion about *chess*. After transcription, these audio-taped (with one exception) interviews were coded for emergent themes that appeared significant to people when they talked about their experience with games in general or a certain game in particular. Findings will be discussed in two subsections: first, I will review the themes that cut across games. Next, some individual games and topics will be discussed. Direct quotes are in italics. Translations from Hungarian into English (my translations) are in square brackets between single quotes. When the linguistic form was judged significant, both word-for-word and literal translations are provided, in this order. Specific games are in small caps in this section.

5.1.1. Presentation and discussion of emergent themes in interviews

Emergent themes were kept under rather broad labels so that I could detail the aspects that are relevant to perceptions of games for the two groups under the same heading. First themes that are shared by both groups are discussed. These are *company*, *game versus work*, *teaching/thinking*, *joy*, *skill*, *involvement/intent*, *appeal/novelty*, *competition*, *relation to age*, *familiarity*, *film*, *money*, *strategy*, and *time*. Next come themes that emerge only for one of the two language groups: *purity*, *gender*, and *cooperation*.

Company

For both language groups, being in a company seemed an important part of games. Five of the American participants emphasize this aspect, using expressions like *be*

with friends; get together; social activity, a good way to meet people. Most of the time, company means friends or school buddies, and sometimes family. Company may have an effect on the dynamics of the game: *depending who you're playing with it might make it more intense and more exciting.* Among Hungarians, four highlight this factor: *közös élmény. Együtt szórakozunk* ['a common experience. We're having fun together'].

Interestingly, for one Hungarian, the factor works in the opposite direction: *Egyedül is lehet játszani. Ezért gondoltam, hogy tipikus játék* ['You can play it alone. That's why I thought it was a typical game'].

Game versus work

Many interviewees juxtaposed games with work or the seriousness required by work in their answers. Five Hungarian respondents pointed to this opposition, talking about SCHOOL and CHESS. With CHESS, one participant made the distinction between playing it professionally or for fun, saying, *Nyilván ha profiként űzném, akkor lehet, hogy nem írtam volna oda, hogy játék* ['Obviously, if I pursued it professionally, I may not have put game there']. SCHOOL is not game-like because it is too demanding, whereas *a játéknak pont az a lényege, hogy kikapcsolódunk és pihenünk* ['the essence of game exactly is relaxation and resting']. Within SCHOOL, level also plays a role; learning English may have been game-like in lower grades, but *egyetemi szinten azért már nem* ['not at the college level any more']. Two participants see playing games like SCRABBLE in school a waste of time. From the American interviewees, three assert this distinction, talking mainly about SCHOOL: *I'm not here to have fun, I am here to learn*; with games, *you relax on school work and just take a break; and school is a more of a serious thing as*

it is supposed to be fun. Playing something professionally as a factor in decreasing game-likeness comes up with one American participant.

Teaching/thinking

Contrary to the previous theme, some participants do not necessarily see a conflict between games and learning. Two Hungarians talk about how games can teach us certain things, sometimes *intenzívebben* [‘more intensively’]. Another contrasted thinking to luck, and saw the former as making something into a better game. Among Americans, one claimed that *games really help you learn*; a further four emphasized the thinking and mental activity required by CHESS, (*it’s really a logical game*), but did not see those as lessening its game-likeness.

Joy

Being in good spirits while playing seems a big part of game activities for both populations. Six Hungarians mention this feeling in one way or another: *öröm* [‘joy’]; *jó érzés* [‘good feeling’]; *élvezet* [‘enjoyment’] and *szórakozás* [‘fun’] are used by two participants each; furthermore, *boldogság* [‘happiness’]; *vidámság* [‘hilarity’], and *felszabadultság* [‘exhilaration’] appear in the descriptions of one participant each. Examples include: *nincs meg benne az a fajta boldogság vagy öröm ami egy fizikai játékban van* [‘it lacks the kind of happiness or joy that a physical game has’]; *a felszabadulás mind a kettőre jellemző* [‘exhilaration is a characteristic of both (games and sports)’] and *célja a szórakozás* [‘its aim is to have fun’]. Among Americans, five invoke good spirits as an essential constituent of games. All five use the word *fun* when describing this feeling, sometimes hedged or qualified: *it’s kind of fun* (PHONE CHESS);

it's not quite as much fun; or it's a lot of fun. In addition, one of them says, *I enjoy playing it*, and another one, *games is just a way to entertain yourself*.

Skill

Skill as an element of games arises in interviews in a number of different contexts. For five Hungarian interviewees, the lack of certain skills inhibits the ability to enjoy a game: *Nem tudok pókerezni mert nem tudom megjegyezni* ['I can't play poker because I can't remember it']; *A frizbi amiben volt némi sikerélményem. Azt azért nem nehéz eldobni* ['I had some success with *Frisbee*. That's not difficult to throw away'], or *nem szerettem, mert engem mindig megfogtak. Nem tudtam gyorsan futni* ['I didn't like (TAG), because they always caught me. I couldn't run fast']. Skill in this sense comes up with SCHOOL, CHESS, POKER, SOCCER, BADMINTON, TAG and FRISBEE for Hungarians. The knowledge of rules, as a subcategory of skills, appears with two Hungarians talking about CHESS and POKER. Having certain physique as a skill may assign a position to people in a certain game: *elég terebélyes voltam és így mindig én voltam a kapus* ['I was rather chubby and so I was always the goalie'] (in SOCCER). Among the American participants, three detail the importance of skill, as in lack of skill and knowledge of rules, but only related to SCRABBLE and CHESS: *I just couldn't form words with the letters I had got* (SCRABBLE); *I think most people don't know how to play* (CHESS).

Involvement/intent

Intentionality, often coupled with involvement, also emerged as an important aspect of games. Four Hungarian participants elaborate on it; one says, *amikor az ember játszik, abban úgy teljesen benne van* ['when people play, they are fully into it']; another says about PLAYSTATION: *ez a gép csak és kizárólag arra van, hogy játszani lehessen*.

Ezért tipikus játék [‘this machine itself is exclusively for play. That’s why it is a typical game’]. Two others bring the issue up in connection with SCHOOL, saying that SCHOOL can be a game if you study what you like. The theme is also important for three American participants; one of them views it similarly to Hungarians, saying that interest may help you see SCHOOL as a game, *You have to show some interest like you would in a game*. Interestingly, another student perceives SCHOOL just the opposite way: *are you in it for the long haul or (..) so it shouldn’t be a game*. A third respondent talks about how being on the marching band makes you inevitably involved with FOOTBALL.

Appeal/novelty

Having an appeal emerged as an important element of games, first of all for Hungarians, four of whom elaborate on it. Hungarian language makes this image extremely vivid, since the same word (*varázs*) can be used for ‘appeal’ and ‘magic.’ So, participants, when describing a game, would say *megvan a varázsa* [‘it has its magic’], meaning it appeals to them. Another representation is when a player and a game are two objects in space and the physical distance between them indicates liking. Expressions like *Az ACTIVITY közelebb áll hozzám* [ACTIVITY stands closer to me- ‘I can relate to ACTIVITY more’]; *nem vonz egyáltalán* [‘It does not attract me at all’], and *Nekem az ACTIVITY nem jött be* [Me-to ACTIVITY no came in- ‘I don’t like ACTIVITY’) evoke this picture. Also to this somewhat enigmatic world belongs the notion when one participant says that she can’t imagine herself playing POKER and another one asserts that something turns into a game when the players feel that they are in a spiritually different state. An important factor contributing to appeal is the novelty of a game. According to three Hungarian participants, a game *elveszti a varázsát* [‘loses its magic’], or *ellaposodik*

[becomes flat- ‘becomes boring’] if we play it too much. Two interviewees see introducing new rules to an existing game or discovering a new game as a remedy. The role of novelty in games comes up with American participants as well. One talks about discovering a new game, *It’s a new board game. It came out last year*; more importantly, however, three participants see novelty as coming from inside, people inventing, or making up, random games: *college kids try to come up with something new. And that’s a new game, and we would make up like role-playing games.*

Competition

Discussion of to what extent and in what form games involve competition is a reappearing issue in the interviews. For three Hungarians, competition is a necessary element of games; nevertheless, in these competitions, it is not important to win. In contrast, out of the three Americans who view games as competitive, two assert that winning is important; one even says, *there’s the definition of a game is winning and losing*. Two American participants further refined this idea and emphasized the aspect how games can teach us *not to be a sore loser*. It was interesting that when one Hungarian participant talked about board games, she said, *egyrészt versenyzünk* [‘on the one hand, we compete’]; at the same time, talking about kick- box, she mused *én abszolút játéknak fogtam fel főleg, hogy nem mentem versenyre* [‘I absolutely viewed it as a game especially that I did not participate in competitions’]. Two American participants also make this distinction, *it wasn’t like I played on tournaments. It was more for fun*, and a further participant does not think any game is competitive. When interviewees do not consider competition an element of game, they invariably contrast competition with fun and relaxation. A nice image, used by two Hungarian participants, is when “blood” stands

for the seriousness of the competition and stresses the importance of winning: *vannak akik a játékot veszik véresen komolyan* [are who games-ACC take bloodily seriously- 'there are people for whom games are very high-stake']; *ott azért eléggé vérre megy* [there rather blood-for goes- 'it's very high-stake there'].

Relation to age

When participants talk about games, age as a factor comes into play in a number of ways. Two Hungarian and one American speaker associated games overtly with children. This happens most when a person either has children or spends a big amount of time with them in some other way: *először a játékról kapásból az jutott eszembe, hogy a gyerekek játéka*” [‘first I immediately thought of children’s games’]; *I have children and grandchildren so, I am very familiar with their games and toys*. Then, there are specific games that participants linked to a certain age: TAG evoked childhood for both groups; CHECKERS evoked a young age for two American participants and SOCCER for two Hungarians. An interesting subtopic of age is that as people mature, their involvement with or perception of certain games may change. Two American participants talked about how the transition from high school to college changed their participation in CHESS and FOOTBALL events, respectively. A Hungarian speaker explained how, with age, the “money” factor of GAZDÁLKODJ OKOSAN became more conspicuous and thus changed her perception of the game in the negative direction (see ‘*money*’ subheading below for more). It was also important for her that growing more mature may put the lack of skill in a game in a different light: *lehet, hogy ha most 26 éves fejjel bizonyos baráti körömmel elkezdenék focizni, az marha jó lenne. De én kisgyerekkoromban nem voltam kiegyensúlyozott* [‘It is possible that if I started to play football with some friends now at

26, I would damn enjoy it. But I was not a well- balanced child’]. Finally, one American participant mentioned that games themselves may “age”: his example was POKER, which is transforming from a card game into a sport.

Familiarity

Different aspects of familiarity as influencing game perception appear first of all with American participants. One acknowledges not being familiar with BLURT (and therefore giving it a “1” on the Likert-scale); another one describes how knowing somebody personally who plays CHESS changed her opinion about the game. Moreover, when wanting to familiarize me with a game, American participants go into detail: one talks about defensive formations like dime and nickel; another one says, *I was on first base at that time and I had gotten the steal signal so I was getting ready to steal and hit through the pitch and it went right at my friend and he turned into the ball and it broke his nose as I was stealing’*. Conversely, Hungarians judge the details less relevant: *Tehát például van egy hát teljesen mindegy van egy labirintusos társasjáték ahol így tologatni kell a kis labirintuskockákat es mindig megváltozik a labirintus* [‘well, for example, there is, it doesn’t really matter, there is a board game with a maze where you have to push the little mazecubes and the maze always changes’]. Finally, in the Hungarian group, one participant expresses surprise over many of her peers not being familiar with SCRABBLE.

Film

Film as a source of knowledge about certain games emerges with two American and one Hungarian participant. Both Americans mention it in relation to CHESS (*I saw it in a movie*); the Hungarian participant remembers it when talking about POKER:

filmekben vannak ilyen jelenetek, és az az egyetlen kapcsolatom így a pókerrel [‘there are these scenes in films and that’s my only relation to poker’].

Money

Two Hungarian and one American participant state that the presence of money lessens something’s game-likeness. Hungarians point it out in relation to POKER, GAZDÁLKODJ OKOSAN (*gyerekként ez nem tűnt fel annyira, hogy ez ilyen pénzes játék és ezt annyira nem kultiválnám* [‘when I was a child, the money aspect of the game did not strike me much, and I don’t like it now’]), and to SOCCER if the games are fixed in advance. The American speaker talks about it in relation to SCHOOL: *I pay too much for it to be a game*. One American participant who mentioned money when talking about MONOPOLY did not refer to this aspect.

Strategy

The fact that certain games involve strategy is especially prominent for Americans. Five participants name strategy as an element of CHESS (*It also kind of reminds me of war the strategy and everything*), FOOTBALL, LIFE and the board game HERE I STAND. Conversely, only one Hungarian mentions strategy, and only in relation to CHESS.

Time

Issues related to time arose as significant only for American speakers, five of the six of whom elaborate on a certain aspect of it. Three of them state that a lack of time prevents them from playing certain games. Length as a prominent feature of some games also comes up in three interviews (*And it can take nine hours to play the game*). Moreover, for one participant, it is important not to play (CHESS) under time constraints,

which would make it more job-like: *So I do like to play for leisure where it's not like a job that you have to hurry.* Among the Hungarian interviewees, only one sees lack of time as a main factor in not playing a game.

Purity

Related to the issue of money is purity, present in the discussion of only Hungarian participants. Two of them emphasize that an honest atmosphere, where people do not violate written and unwritten rules, is indispensable for games: *attól függ, hogy milyen a társaság. Őszinte légkörben van-e vagy nem* [‘it depends on the company. Is it an honest atmosphere or not?’].

Gender

The role of gender in the perception of games came up only with Hungarian participants. Two of them associate POKER with males (*szerintem a póker férfiaknak való* [‘I think poker is for males’]), one links SOCCER to males and GAZDÁLKODJ OKOSAN to girls. A further female student asserted that KICK-BOX fights are more violent between two females than between a male and a female, because *az idősebb fiúk azért nem ütöttek meg* [‘older guys made sure not to hit me’].

Cooperation

The importance of cooperation between team members was significant for two American interviewees, in relation to BASEBALL (*I think that's one of the key things that any team sport you have to be able to work together and communicate*), and FOOTBALL, respectively.

This exploration of the interviews in connection with games was designed to answer the second research question; namely, in what ways the emergent themes

contextualize earlier findings. The interviews proved to add to, elaborate on, and also contradict some of the previous results. Being in company did not show up on the attribute list of GAME for Americans, but the interviews suggest that it is an important element. For Hungarians, the importance of company, expressed in the interviews, further explains why ACTIVITY, the third attribute of which is company, ranks the highest on the Likert-scale. The seemingly contradictory assertion of one Hungarian participant, saying that something is a typical game if you can play it alone, may be explained if we consider that it suggests being devoid of restrictions, which in turn is an image somewhat evoked by the attribute lists of games for Hungarians. Of course, this is a very tentative link. The effect of needing skills on GAME- likeness proved more important for Hungarians, in the sense that the fewer skills needed, the more typical game something is. This may explain, for example, why SOLITAIRE is much higher rated than GOLF or POKER. The views on competition further support the attribute listing in that it is seen as more important for Americans; however, what the interviews add to the picture is that it does play a role for Hungarians as well. Winning, as an aspect of competition, emerged as more important for Americans, which supports previous findings. The dual character of sports become apparent here, especially for Hungarians: if played professionally, they are not games, but if played only for entertainment, competition is not an important aspect of them. This may explain why TENNIS and GOLF, which fewer people in Hungary play for entertainment than SOCCER or BASKETBALL, rank lower. The prominence of the theme games teaching you not to be a sore loser, appearing only for Americans, may give us an explanation why vandalism related to sport events is not as much of a concern in the US than in Europe. The topic of joy contributed to the attribute lists in more than one way: on

the one hand, the more varied vocabulary used by Hungarians on the attribute list to convey this sense bears out also in the interviews. However, what the interviews suggest is that the theme itself seems to be just as important for Americans, even if they mostly use only 'fun' to describe it. The interviews put the 'age' factor into a broader context: whereas childhood is still important, games do play a role in higher ages as well, even if the conception of them may change. Interviews also added novelty and appeal, not on the attribute-lists, as prominent contributors to GAME-likeness. The fact that games may involve strategy appeared more prominent for Americans, which may help explain why CHESS ranks higher for this group. Interviews also hint at the negative role money may play in certain games, which provides context for this attribute on the POKER list. In general, the interviews fully support Hungarians' skewed picture of POKER, emerging mainly from movies, being related to casinos and luck, and thus making it less of a game. For Hungarians, related to a desired absence of money is purity, both material and spiritual, which in turn makes the connection to children stronger. The anti-work nature of games, suggested by attributes like 'entertainment' and 'relaxation' on the lists, was verified by the interviews. The issue most of all comes up only with SCHOOL, though. It is important that some interviewees point to the other direction, acknowledging that it is not blasphemous for games in general to involve learning. A nice theme not apparent from the attribute-lists is the importance of involvement. We can build a very tentative hypothesis on it, saying that physical activities will more readily be seen as games as they involve both our physique and mentality, that is, the fuller person. This may contribute to the explanation of the Likert-scale results, where Hungarians, with the exception of GOLF, did not rate physical activities low (and most Hungarians may not view GOLF as a

typical physical activity). Naturally, one aspect will not explain all results- on the American list, TAG and FRISBEE rank rather low.

5.1.2. Special issues

Some interviewees were asked specific questions on four topics: how they differentiate between sports and games; to what extent they consider SCHOOL and LIFE a game; and finally, how they viewed CHESS in general. I sought an articulated differentiation between sports and games because of the prominent role of sports among games for Americans. The aim of the questions about SCHOOL and LIFE was to see why these metaphorical extensions were rated low. Last, questions about CHESS meant to prepare the deeper textual analyses that follow in the next two sections.

Sports versus games

Five American interviewees elaborated on the difference between sports and games. Four of them did not find it difficult to come up with a verbal distinction. Sports are mostly described with the adjectives ‘outdoor’, ‘more exciting’, ‘active’ ‘physical’, ‘more competitive’, and *you can play them professionally*. Conversely, games were characterized as ‘not competitive’, and ‘more calm’ by one participant. Interestingly, as it turned out, the two participants that rated sports lower than average on the Likert-scale or did not list sports as exemplars of games did so because of consciously making the distinction between sports and games. Further descriptions of games include: *you can play with a bunch of friends, you’re just sitting down*, and *games are more a way to socialize and just to pass the time and there’s usually no fights in a game*. Only two interviewees express some doubt about the boundary between the two: one acknowledges that games also may become more intense and more exciting *depending who you’re*

playing with. Another cites POKER as an example of a card game turning into a sport, because *they get televised*.

The three Hungarian participants that comment on the distinction found it more difficult to verbalize a demarcation line: one says that in sports, winning is absolutely important; moreover, he also sees sports as involving concrete conditions, whereas *a játék az meg annak is megvannak a maga szabályai, de az mintha kötetlenebb lenne* [‘games also have their own rules but still they seem more informal’]. The same person also says that both sports and games are a pleasure. Another student said that winning was not the main point of either, and a third one thought that both meant exhilaration.

Life

Five interviewees from both language groups elaborated on the extent to which they thought LIFE was a game. Of the American respondents, two asserted that it could be a game, another two that it wasn’t a game, while the fifth one was hesitant. The two who said LIFE could be viewed as a game did so based on the strategic approach it requires from people (*you have to think about what you wanna do next; you have to figure out how. It’s like it’s strategic*) and on its evoking a sense of gambling (*Or an interview for a job it’s kind of like a gamble to see if you wanna go or if you are afraid to go because you think they won’t give you a chance anyway. So that’s why I think it’s a game*). These words support Kövecses’ (2000) speculations on the existence of LIFE IS A GAMBLING GAME metaphor. Finally, LIFE could also be seen as a game because one could lose in life and one can waste it. Conversely, one of the two respondents for whom LIFE was not a game considered that you can’t win or lose at life. Moreover, these respondents said *life’s really important* with more severe consequences and it’s *more an experience kind of*

thing. The undecided respondent saw the strategy of life as making it into a game; however, he asserted there were a lot more factors in life than *in like any board game*. These opinions support Cudd's (2007) discussion on the 'life is a game' metaphor, where she points out both those aspects of life that are present and those that are masked by the metaphor. (Nevertheless, she argues that life could be seen as sport, since some people are so much devoted to a sport that "Sport can be a life-or-death matter", p. 57).

Of the five Hungarian respondents, one firmly stated that LIFE was a game; two were definite it wasn't, and two stated conditions. The one for whom LIFE was a game pointed to its needing humor and excitement just like games. Both NO respondents stated that LIFE was too serious to be a game (*egy kicsit komolyan veszem ahhoz, hogy én ezt egy játéknak fogjam föl*- ['I take it a little bit too seriously to consider it a game']); one of them acknowledged though that his opinion may be influenced by the fact that his life had not been very happy recently. These people also felt it important to provide alternative metaphors for LIFE; these were: challenge, journey, struggle, and fight. One of the undecided respondents mused that LIFE could be a game compared to school, because *az életben talán több öröm van, mint az iskolában* ['in life there's perhaps more joy than in school']. The other uncertain interviewee said that LIFE may be a game for those who are positive and open to failure. However, those for whom success is absolutely necessary LIFE is less likely to be a game because *mindent megtesz a cél érdekében, annak pedig az eszköz nem számít. Az már nem játék* ['they do everything to achieve their aim, and the means don't matter. That's not a game any more']. These opinions mainly sustain Kövecses' (2006) speculations about life metaphors, saying that for Hungarians, because of their history, life is more of a war and compromise than a game. However, his

argument for the LIFE IS A PLAY metaphor is not supported by these interviews in either language.

School

Four American and six Hungarian interviewees commented on SCHOOL's game-likeness. Two of the American respondents were strongly against SCHOOL being a game, because *I'm not here to have fun, I am here to learn* and *I pay too much for it to be a game*. The other two American interviewees were more hesitant; both of them considered that SCHOOL's not being that much fun diminishes its game-likeness. Nevertheless, some aspects of SCHOOL, like the challenge and competition it involves, do evoke a game-like image as well as *you have to show some interest like you would in a game*.

Of the six Hungarian respondents, two stated that SCHOOL could be a game if one studied what one liked, *mert akkor élvezetes és nem érzi a komolyságát* ['because then it's enjoyable and (one) doesn't feel its seriousness']. Three claimed not considering SCHOOL a game because it is too much work and is too demanding. One respondent was undecided between the extreme viewpoints, saying that, on the one hand, SCHOOL was not a game if one is sitting passively in class, because in that case it does not involve the whole person. On the other hand, SCHOOL could be a game if one understands what one is studying and gets involved with it.

Chess

Six American and six Hungarian interviewees commented on CHESS in one way or another. Five of the six American respondents elaborated on the time aspect of chess. One of them said that she preferred a chess game without time control, whereas the other four saw CHESS's taking a long time as an impediment to their pursuing it. Four

respondents pointed to the strategic nature of the game (*I like to see the strategy*), and two saw logic as one of its main requirements. Two participants compared chess to checkers, pointing out that they were similar but *checkers is just a simpler game*. For two participants, it was a fun game; another two held it important to mention that they were not good at it. Two interviewees also talked about the competition that CHESS may involve and one of them contrasted it with playing for fun: *It wasn't like I played on tournaments. It was more for fun*. One student compared CHESS to war: *It also kind of reminds me of war the strategy and everything*. Of the two respondents who commented on whether it was a sport or not, the votes were split between one 'yes' and one 'no.'

The six Hungarian students commented on CHESS more briefly. Importantly, of the three respondents who elaborated on its sport status, two said that it was a sport and one said that it wasn't: *hogya az ember egy asztal mellett ül, azért szerintem az nem sport* ['when somebody is sitting at a table I don't think that's a sport']. Two participants emphasized the logic needed to play chess, and another two saw having to think ahead as its distinguishing feature. One participant differentiated between the leisure and the competitive versions, stating that she might not consider chess a game if she played it professionally. This differentiation between two instantiations of an item is in fact consistent with prototype theory (see Hampton, 2006, 2007, with examples on how the two representations of CHESS may make it either a game or a sport). One participant compared CHESS to war and fighting: *ez lehet két vár közötti háború is* ['this can be war between two castles'], and another one mentioned strategy as an element of the game. The same student compared CHESS to Nine Men's Morris saying they were similar and she also said it was fun to play chess.

This investigation of the four special issues further extends the scope of answers to the second research question regarding contextual variables to previous findings. The pursuit to elicit distinctions between sports and games led to remarkable results. Contrary to what might have been predicted on the basis of the preceding surveys, Americans, who seemed to blend the two to a greater extent, turned out to find it easier to articulate distinctive attributes of the two when pressed to do so. Their view of sports being a physical activity corresponds to the view held by experts on the topic (Boxill, 2003). Students' ability to make the distinction but still see popular sports as typical games suggests that there may be a discrepancy between the meaning of lexical items based on the semantic feature model and based on the encyclopedic knowledge. That is, even though students are able to decide whether a concept possesses a feature or not (even though sometimes hedges like 'more' qualify the degree of possession; the usage of hedges, on the other hand, reflects meta-beliefs about language use (Hampton 2007)), their mental picture of concepts is more elaborate, which prompts them to mix sports with games when making category judgments. Also, it appears that participants may be working with the conjunction of sports and games to some extent (Hampton, 1987, 1988), where sports weight more heavily than games in determining typicality. For Hungarians, the distinction is harder to spell out; the words of those who still attempt to do it echo the attribute-list of GAME, where winning is missing and the picture is one of greater laxness. As for LIFE, the interviews support the *z*-scores calculated on the Likert-scale results in that Americans are slightly more ready to consider it a game. It is interesting that for Americans, the possible strategic nature of LIFE may make it into a game; at the same time, 'strategy' was not among the attributes of GAME on the survey. Nevertheless, it

emerged as an important facet for a number of games in the interviews. Hungarians see LIFE as a game to a lesser extent. One's perceptions on LIFE's game-likeness are influenced by contextual variables like the actual happenings that are taking place in one's life at the moment as well as the nature of the aims in one's life. To provide alternative metaphors for LIFE, one American came up with 'experience'; among Hungarians' metaphors, - 'challenge', 'journey', 'struggle', and 'fight', this last one appears as an important attribute on the survey. The interviews do not clearly back up the findings of previous surveys in relation to SCHOOL in that for Hungarians, SCHOOL does not seem so markedly behind LIFE as it was on the Likert-scale survey. Even though for half of the respondents, SCHOOL is definitely not a game, the other half states that it could be, provided one likes what one is studying. The American interviewees' responses more clearly assert that the absence of 'fun' heavily taxes SCHOOL's game-likeness. It is interesting that these students also so unequivocally see 'fun' as an all-important attribute. The negative weight of money on game-likeness appears in connection with SCHOOL for Americans. Interviewees' elaborations on CHESS also lead to support, explanation, and addition to the previous results. Americans' more pronounced emphasis on the strategic nature of the game sustains the attribute-listings. However, 'logic', which came up only on the Hungarian list, also appears for Americans in the interviews. The same is true for 'time'; its prominent role for Americans, suggested by the interviews, makes it somewhat surprising that for this group, it did not emerge as an important attribute. Moreover, the competitive nature of the game does not prove more outstanding for Hungarians in the interviews, contrary to the attribute survey. 'War' as a metaphor for CHESS emerges to the same extent for both groups; at this point, it is not clear how a

powerful image it is. Interestingly, both groups come up with a comparison to another game (CHECKERS AND NINE MEN'S MORRIS); however, for Americans, the point is to make a contrast as to the skills needed, whereas the Hungarian respondent stresses the similarity. Finally, we may speculate that Americans' higher rating of CHESS as a game is perhaps attributable to Hungarians' tendency to view it more as a sport.

5.1.3. Conclusion to the interviews

The follow-up interviews with volunteers provided valuable additional information to our understanding of the concept GAME and of the essence of games for the two groups. Aspects that were not emphasized so far but emerged in the interviews may definitely influence the perception of a game. These themes include *novelty*, *strategy*, *involvement*, *purity* and *learning*. Interviews also reveal that, when thinking of games, *company* is important also for Americans, and *competition* for Hungarians. Moreover, interviews also pointed to the distinction between the leisure and sport versions of certain games. Enlightening insights were gained as to the effect of *skills* and *money* on game-likeness. The previous dominance of childhood in relation to games was refined by a more elaborate investigation of the *age* factor. Interviews also confirmed that in spite of the limited vocabulary employed to describe it, *fun* is as important an aspect for Americans as it is for Hungarians. The overt investigation of the distinction between sports and games led to some thrilling speculations as to the nature of the category and that of semantic knowledge. These indications definitely call for further research. Interviews reveal the strategic nature of LIFE for Americans and also provide vivid and different metaphors for it in the two languages. SCHOOL loses its unquestionably grim nature in the Hungarian interviews. Finally, *time* and *logic* as attributes of CHESS appear

for Americans and both groups come up with the ‘war’ metaphor for this game. The extent of the difference between the two groups’ view on the sport-like nature of CHESS is still disputable.

5.2. Domain analysis of chess articles

This analysis aimed at finding an answer to the third research question, namely, how the use of metaphorical source domains to describe chess events and games contribute to our emerging understanding of the game *chess* in the two languages. Altogether, 15 American and 24 Hungarian articles, all accessible online, with a total number of 8276 and 9914 words, respectively, were searched for metaphorical expressions. For more statistics, and a full description of the selection and source domain identification process, see the *Method* chapter, pp.74-75. In the text, sourced domains are between single quotation marks, e.g.: ‘war.’

5.2.1. Source domains of metaphorical expressions used to describe a chess event and a chess game

Metaphorical expressions were separated into two groups depending on whether they appeared in the general description of the chess event or in the analyses of actual chess games. It was hypothesized that a presumed different audience for these two text types might have triggered different usage of metaphorical expressions.

Table 5.2.1 summarizes the results of the source domain analysis regarding the metaphorical depiction of a chess event.

Table 5.2.1. *Chess as an event: the numerical and percentual distribution of Hungarian and American metaphorical expressions by type in their respective source domains*

Hungarian				American			
Rank	Source domains	N $\Sigma 76$	%	Rank	Source domains	N $\Sigma 39$	%
1	War	17	22.37	1	Physical properties	12	30.76
2	Action	10	13.16	2	Action	7	17.94
3	Health state	9	11.84	3	War	6	15.38
5.5	Movement	7	9.2	4	Movement	5	12.82
5.5	Spatial relations	7	9.2	6	Art	2	5.13
5.5	Physical properties	7	9.2	6	Law	2	5.13
5.5	Violent act/movement	7	9.2	6	Violent act/movement	2	5.13
8.5	Other sports	3	3.95	9	Supernatural/gambling	1	2.56
8.5	Supernatural/gambling	3	3.95	9	Death	1	2.56
10.5	Music	2	2.63	9	Health state	1	2.56
10.5	Religion	2	2.63				
12.5	Book-keeping	1	1.32				
12.5	Resource	1	1.32				

For describing the event of a chess tournament or match, 76 different metaphorical expressions were found in the Hungarian data. They come from 13 source domains, in the following distribution: ‘war’(17 expressions), ‘action’(10), ‘health state’(9), ‘movement’, ‘spatial relations’, ‘physical properties’ and ‘violent act/movement’(7), ‘other sports’ and ‘supernatural/gambling’(3), ‘music’ and ‘religion’(2), ‘resource’ and ‘book-keeping’(1). In the American sources, 39 different metaphorical expressions were found that describe the chess event as a whole; they belong to 10 domains: ‘physical properties’(12), ‘action’(7), ‘war’(6), ‘movement’(5), ‘art’, ‘law’, and ‘violent act/movement’(2), ‘supernatural/gambling’, ‘death’, and ‘health state’(1).

Table 5.2.2 shows the results of the source domain analysis of the metaphorical expressions used to describe a chess game. In the texts commenting on an actual game in the Hungarian data, the 40 different metaphorical expressions fall into 11 source domains: ‘gambling/supernatural’(8), ‘war’ (7), ‘violent act/violent movement’(6), ‘physical property’(5), ‘death’(4), ‘action’ and ‘movement’(3), ‘other sports’, ‘music’, ‘religion’ and ‘health state’(1).

Table 5.2.2. *A chess game: the numerical and percentual distribution of Hungarian and American metaphorical expressions by type in their respective source domains*

Hungarian				American			
Rank	Source domains	$N_{\Sigma 40}$	%	Rank	Source domains	$N_{\Sigma 100}$	%
1	Supernatural/gambling	8	20	1	War	23	23
2	War	7	17.5	2	Movement	21	21
3	Violent act/movement	6	15	3.5	Confining actions	16	16
4	Physical property	5	12.5	3.5	Physical property	16	16
5	Death	4	10	5	Violent act/movement	6	6
6.5	Action	3	7.5	6	Art	5	5
6.5	Movement	3	7.5	7.5	Health state	3	3
9.5	Other sports	1	2.5	7.5	Weather	3	3
9.5	Music	1	2.5	9.5	Cooking	2	2
9.5	Religion	1	2.5	9.5	Other sports	2	2
9.5	Health state	1	2.5	12	Supernatural/gambling	1	1
12				12	Death	1	1
13				12	Religion	1	1

The American data was far more replete with metaphorical expressions used during the analysis, - 100 lent themselves to being assigned to one of the 13 source domains:

‘war’(23), ‘movement’(21), ‘confining action’ and ‘physical property’(16), ‘violent act/movement’(6), ‘art’(5), ‘weather’ and ‘health state’(3), ‘cooking’ and ‘other sports’(2), and finally ‘gambling/supernatural’, ‘death’ and ‘religion’(1).

Altogether, 19 different source domains are used in the two languages to describe either a chess event or a game. Hungarians use 14 source domains, Americans, 15. Out of the 19 domains, 10 overlap. Breaking it down by text type, for a chess event, there are 7 overlapping and 9 different domains used in the two languages. For the analysis of chess games, 9 overlapping and 6 different domains are used. That is, for describing the games themselves, there is a bigger overlap in source domain usage between the two languages than for describing a whole chess event. In general, there is a high usage of the domains ‘war’ and ‘movement’ in both languages for both text types. Also outstanding is Hungarians’ higher usage of the domains ‘supernatural/gambling’ and ‘violent act/movement.’ In contrast, Americans’ bigger usage of the domain ‘physical properties’

is to be noted. Staying within one language, there is a slight difference in source domain usage between describing the whole event versus describing a game in both languages (in the Hungarian data, four domains come up only in one text type, whereas in the American, this figure is seven).

Next, I will closely examine individual source domains which, through revealing further similarities as well as differences between the two languages, most contribute to our emerging understanding of *chess* and of games. The source domains ‘war’, ‘physical properties’, ‘violent act/movement’, ‘death’, ‘supernatural/gambling’, ‘confining actions’, ‘spatial relations’ and ‘movement’ are included in this scrutiny. Metaphorical expressions are italicized. Specific mappings between source and target domains are spelled out only if they were thought to not be readily available. For example, since ‘war’ is a conventional metaphor for *chess*, mappings are not specified, but with ‘death’, they are. These mappings are in small capitals. No claim is made as to the existence of conceptual metaphors based on these mappings. For the Hungarian expressions, a gloss is provided next to the translation only if it is necessary to capture the metaphoric element. With individual expressions, the translation appears in square brackets.

‘War’

‘War’ is a prominent source domain in both languages and text types: to describe an event, the domain is ranked first in the Hungarian data, and third in the American. For the analysis of a chess game, it is the second ranked in the Hungarian, and the top ranked in the American data.

To describe a chess event, Hungarian authors use the widest range of expressions from this domain (examples H1 & H2). Words include *csata* [*battle*], *fegyver* [*weapon*], *elhódít* [*conquer*] and *békekötés* [*peacemaking*], among others:

(H1) Egy pontra van szüksége a világbajnoki cím *elhódításához*.
'He needs one more point to *conquer* the world champion title.'

(H2) Lékó hosszas gondolkodás után belátta, hogy nem tudja elkerülni az újabb gyors *békekötést*.
'After pondering for a long time, Leko realized that he cannot avoid another fast *peacemaking*.' (agreeing to a draw).

The same source domain is number three in the American chess event data. The basic expression *fight* overlaps with the Hungarian. However, the somewhat poetic *belligerent* and the expression *produce a lot of fire* (A1 + A2) have no equivalent in the Hungarian data.

(A1) Peter Leko, the challenger from Hungary noted for his defensive skill, came out fighting and picked the *belligerent* Marshall Gambit to confront Vladimir Kramnik's Ruy Lopez.

(A2) Despite 11 draws and one win, Kasparov *produced a lot of fire* in his games.

The American authors make the widest usage of this source domain in the analysis of a game. See examples A3, A4, and A5 below:

(A3) A fancy retort, allowing a rook *invasion*.

(A4) Leko gets *outgunned* in a sharp tactical duel

(A5) Establishing the *outpost* on c7 for the soft landing of his rook.

In the Hungarian data, 'war' is the second domain used for the analysis, and includes *manőver* [*maneuver*] and *tűz alatt tart* [*keep under fire*]. See H3 and H4:

(H3) A korábban minden kockázatot kerülő Kramnik meglepő *manővere*.
'A surprising *maneuver* from Kramnik, who had been shunning all risks so far'

(H4) Ha nem *tartja tűz alatt* a d6 gyalogot, akkor sötét sikerrel befejezni a fejlődést.
'If he does not *keep* the d6 pawn *under fire*, black will be able to finish developing his pieces.'

The importance of this domain may partially explain why chess does not rank very high in the Likert -scale for Hungarians, who seem to view games as less serious activities. At the same time, we can also speculate that Americans' strong connection between strategy and chess, found in the previous inquiries, is linguistically represented in these expressions. The fact that in the Hungarian data, the prominence of the domain is more accented to describe an event, whereas in the American data, it is more used in the analysis sections, may indicate that the Hungarian general public sees chess as more of a 'war' than the chess players themselves, while the situation is the opposite in the US.

'Physical properties'

'Physical properties' is a more important domain for Americans than for Hungarians in both text types, and it is the most important American source domain to describe a chess event. The overwhelming majority of these expressions use adjectives in both languages; in addition, the American data include two verbs (*soften the pawn, clear the position*), and the Hungarian, three nouns (*weakness, strength, and inaccuracy*). American examples in the event texts are: *tame draw, heavy-handed performance* (A6), *shaky start, hungry player* (A7), and *colorless draw* (A8):

(A6)..Kramnik can still win brilliantly today and we may forgive him his previous *heavy-handed* performance.

(A7) The Hungarian grandmaster was *hungrier*.

(A8) Leko..drew game 3 *colorlessly* with the same opening.

These metaphors can be subdivided further into those that map outer and those that map inner properties: *narrow, colorless, short* belonging to the former, while *tame* and *hungry* to the latter category. The same source domain in Hungarian is only ranked 5.5, and includes examples like *könnyebb* [*lighter* –'easier'] and *szoros* [*tight*] (H5 and H6):

(H5) A magyar nők a *könnyebb* ellenfélnek számító Lettországgal csaptak össze.
'The Hungarian women faced Latvia, which is considered a *lighter* (an easier) opponent.'

(H6) Szoros mérkőzésen 2:2-re végeztek ellenük.
'They finished 2:2 against them in a *tight* match.'

Interestingly, the Hungarian metaphors map only outer properties.

For the analysis, the domain loses in importance in the American data, (rank 3.5), and gains in the Hungarian (4). The American data has *flexible* (A9), *sharp* (A10), and *light* (A11):

(A9) The night aims for the square f1, leaving white with more *flexible* options than after 10. Nc3

(A10) One of the *sharpest* lines in the advanced variation.

(A11) Winning a chance to go after the *light* bishop.

Hungarian uses *gyengeségek* [*weaknesses*] (H7) and *remiszagú* [*draw-smelling*- 'very likely to lead to a draw'] (H8):

(H7) A játék előrehaladtával kölcsönös *gyengeségek* alakulnak ki
'With the game advancing, mutual *weaknesses* emerge.'

(H8) Leko egyiket sem teszi meg, helyette egy *remiszagú* folytatásra szavaz
'Leko does neither; instead, he chooses a continuation that *smells of a draw* (is very likely to lead to a draw).'

For the analysis of chess games, all metaphors map outer properties in both languages.

As the overwhelming majority of these expressions use adjectives, the heavier use of this domain in the American data may be related to a wider usage of adjectives to metaphorically represent this game. This finding corresponds to the results of the attribute lists in that Americans used more adjectives than Hungarians to describe chess. It also may be the case that adjectives are more often metaphorical in English.

The fact that physical property mappings are closer in the analysis texts than in the event texts suggests that for the analysis of games, not only more similar source domains are used, but also that they are used in a more similar way.

‘Violent act/violent movement’

The domain of ‘violent act/violent movement’ emerged in both languages, but it holds a greater importance in the Hungarian texts: it is ranked 5.5 in the event texts, and ranked 3 in the analysis texts. In the American texts, the domain is ranked 6 and 5 in the two text types, respectively.

To describe a chess event, Hungarian has *elgázol* [*away wades* - ‘smash’] (H9) and *letaglóz* [*fell*- ‘devastate’] (H10):

(H9) Az amerikaiak *elgázolták* a házigazdák legjobbjait.

‘The Americans *away waded* (smashed) the best players of the hosts.’

(H10) Alekszej Szirov világossal túlkomplikálta a spanyol megnyitást, veresége “*letaglózta*” a társakat.

‘Aleksei Szirov overcomplicated the Spanish opening with white, his defeat *felled* (devastated) his team mates.’

In the American data, the classical *break through* appears:

(A11) Although Kramnik was close to a few victories, he was unable to *break through*.’

The domain is used more widely to describe a game, - number 3 in the Hungarian, and number 5 in the American articles. Hungarian examples include: *nyomás alatt tartja* [*pressure below keep*- ‘put pressure on’] (H11) and *nekemjön* [*to me comes* ‘runs at me’] (H12):

(H11) Kramnyik iszonyatos *nyomás alatt tartja* az ellenséges erőket.

Kramnik terrible *pressure below keeps* the opposite pieces.

‘Kramnik puts terrible pressure on the opponent’s pieces.’

(H12) Kramnyiknak nincs vesztenivalója, *nekem kell jönnie*

Kramnik-Poss has no to lose thing, *to-me needs to come*.

‘Kramnik has nothing to lose, he needs to run at me.’

American expressions make use of the words *penetration* (A12), and *destroy* (A13):

(A12) Black can't stop the *penetration* of the white king to f7.

(A13) Several sacrifices are needed to *destroy* the pawn protection of the Black king.

With this domain, we can observe the same tendency as with the 'physical properties': the features that map are closer in the analysis sections than in those describing the whole event. When describing the whole event, the salient feature of violence in the Hungarian data is to annihilate the 'enemy' (see example with *elgázol* above), while the American only wants to achieve his aim, maybe in a more pacific way: (e.g.: *break through*). However, when analyzing a game, we do not get this difference in the features that map; both languages use *penetration* and *breakthrough*.

The bigger importance of the domain for Hungarians may be seen as a support for the findings of the attribute-lists, where Hungarians associated chess with competition and tactics to a greater extent than Americans did. While competition and tactics do not necessarily need to translate into violence, chances are they may involve it. Especially, tactical play can be seen as much fiercer than strategic play.

'Death'

Even though the domain of 'death' does not seem to play a very important role, -both American text types use this domain to a very small extent (rank 9 for the event, and rank 12 for the analysis) and in Hungarian, it does not come up in the event texts, and is number 5 to describe a game-, the expressions that are used contribute to our understanding of games and chess. The American mappings involve A LOSING MOVE IS DEATH (A14), and GOOD PLAY IS KILLING THE OPPONENT (A15):

(A14) *Fatally* weakening the long diagonal.

(A15) Kramnik, with *lethally* accurate positional play, put pressure on him.

Hungarian expressions use the same mappings plus something else that can be formulated as UNIMAGINATIVE PLAY (POSITION) MEANS KILLING THE GAME. Expressions are *öli a sakkot* [*s/he is killing chess* – ‘s/he is playing unimaginatively, without initiative’] (H13), and *hullaremi-* [*corpsedraw* – ‘an unequivocal draw’] (H14):

(H13) Kramnyiknak végre mutatnia kellene valamit világossal, hiszen játéka meglehetősen egysíkú, állandóan csak döntetlenekre törekszik, *öli a sakkot*. ‘Kramnik should finally come up with something with white, since his game is rather one-sided, he is only aiming at draws, *he is killing chess* (he is playing without initiative).’

(H14) A Fritz 8 számítógépes program a megnyitás után kialakult állásra a “*hullaremi*” értékelést adja. ‘The position after the opening is a “*corpsedraw*” (clear draw), according to the computer program Fritz8.’

These mappings from the domain ‘death’ correspond to the American attribute list of *game* in that winning and losing are so important elements of games that they get depicted even metaphorically. The Hungarian mappings, on the other hand, support the finding of the interviews, where participants articulated the opinion that a fundamental aspect of games was their novelty.

‘Supernatural/gambling’

While this domain plays a small role in the American data (rank 9 for the event and rank 12 for the analysis), its jump from rank 8.5 to rank 1 from describing an event to describing a game in the Hungarian articles is remarkable. Mappings in the supernatural domain include AN UNLIKELY MOVE IS A MIRACLE: *csodát művel* [*miracle craft* - ‘He is working wonder’] (H15) and *varázsol* [*conjure*] (H16):

(H15)..a meggyengült sötét királyállás ellen a sötét mezőkön tud-e Péter *csodát művelni*. ‘..can Peter *craft a miracle* (work wonder) on the dark squares against the weakened black king.’

(H16) Amikor nagymesterünk futóját d4-re *varázsolta*, már egyre jobban bíztunk a nyeresében.
'When our grandmaster *conjured* his bishop to d4, we started to believe in his victory more and more.'

and SAVING A WORSE POSITION IS UNEARTHLY POWER: *földöntúli erőfeszítés* [*earth-over effort* - 'unearthly effort'] (H17):

(H17) *Földöntúli erőfeszítéssel*, szinte vért izzadva eléri a remit.
Earth-over effort-with, almost blood-Acc sweating achieves the draw.
'He achieves the draw with unearthly effort, almost sweating blood.'

Mappings in the gambling domain express A RISKY MOVE/PLAN IS GAMBLING, as in
mindent vagy semmit [*all or nothing*] (H18):

(H18) A középjátékban Kramnyik nem sokat cicázik, *mindent vagy semmit* alapon indít támadást.
'In the middle game, Kramnik is not delaying action much, he launches an *all-or-nothing* attack.'

The prominence of this domain in the Hungarian game analysis suggests that the more expert players may perceive chess a game in which unexpected and uncontrollable events are likely to happen. This may be counterintuitive; however, it does connect to the interviews, where Hungarians were talking about the importance of appeal, a.k.a magic, in a game, when something appeals to us without our being able to exactly explain why. Moreover, the use of images of gambling corresponds to the 'tactics' attribute on the list, since it is tactical play that may have the effect of 'all hell breaks loose', when things are out of control and the outcome is questionable. On a more general level, it may be the case that the feeling of reliance and dependence on powers beyond our control is more entrenched in Hungarian culture, as evidenced by the examples and speculations of Bańcerowski (2005) and Kövecses (2006).

‘Confining actions’

An outstanding trend in the American metaphorical expressions to describe a game was to entail some kind of limitation of space; therefore, they were put into the ‘confining actions’ domain. Although this source domain comes up only in the American data, and only for the description of a game, its high standing (rank 3) and the vividness of the expressions make it worth looking at them in more details. Different mappings are employed to get across the issue of space, the main mapping being TO LIMIT MOVEMENT IS TO PUT OUT OF PLAY as in *cut off* (A16) and *jam* (A17):

(A16) After 16. Bxb5 black *cuts off* the bishop with 16 ..c4!.

(A17) After 6.e6! the pawn sacrifice *jams* black’s kingside.

Interestingly, this mapping interplays with the domains of ‘death’ and ‘health state’ in a mapping chain, where TO LIMIT MOVEMENT IS TO PUT OUT OF PLAY is further elaborated by TO BE OUT OF PLAY IS TO DIE/TO BECOME ILL, as in *suffocated pieces* (A18) or *black is paralyzed* (A19):

(A18) White keeps a grip on the *suffocated black pieces*.

(A19) After 42. Qf4 *black is paralyzed*.

While these expressions are also violent, the overriding focus is on the resulting lack of space. Another mapping in the domain is PHYSICAL CONTROL IS SPATIAL CONTROL, e.g.: *get a firm grip* (A20), or *tie down* (A21):

(A20) White *got a firm grip* on the center after 13..Bxa8.

(A21) Although this move does not spoil anything, white had two ways *to tie Kramnik down*.

While it is somewhat difficult to connect this domain to previous findings, we may tentatively speculate that what these expressions suggest is an appreciation of unlimited

space, or just the importance of space itself. In turn, the notion of space is an important one in the most popular American games, like football and baseball.

‘Spatial relations’

The source domain ‘spatial relations’ was found only in the Hungarian sources and only to describe a chess event. Nevertheless, just like with the ‘confining actions’ domain, the nicety of the expressions begs for more discussion. The bulk of the examples express position in the tournament. The main mapping is TO BE ON TOP IS TO LEAD/TO WIN, as in *toronymagasan vezet* [*tower-high-ly lead* – ‘have the clear lead’] (H19):

- (H19) A kínaiak továbbra is *toronymagasan vezetik* a tabellát, annak ellenére, hogy a verseny folyamán először kaptak
‘The Chinese still (*tower-high-ly lead*) have the clear lead, despite having lost for the first time.’

The opposite direction is also present: TO BE UNDER IS TO LOSE, as in *alulmarad* [*below-stay* – ‘lose’] (H20) or *összebukik* [*together-fall* - ‘collapse’] (H21):

- (H20) Az első táblás Almási Zoltán, valmint a negyedik táblás Ruck Róbert *alulmaradt*.
‘Zoltan Almasi on first board and Robert Ruck on fourth board *below-stayed* (lost).’

- (H21) Lékó Péter *összebukott* a 14 partis címmérkőzés végére
‘Peter Leko *together-fell* (collapsed) by the end of the fourteen-game world championship title match.’

One more interesting mapping is PHYSICAL PROXIMITY IS LIKING, as in *fekszik neki* [*lies to him*- ‘he feels at home in it’] (H22):

- (H22) Lemondtam arról a stílusról, azokról a megnyitásokról, amelyek *nekem fekszenek*.
‘I gave up on the style, the openings that *to me lie* (I feel at home in).’

This mapping corresponds to the expressions used by some interviewees, where a player and a game are thought of as two objects in space and the small amount of physical

distance between them indicates liking (see ‘appeal/novelty’ subheading of Section 1 of this chapter, p.132).

Clearly, the presence of this domain only in the Hungarian data is partly due to the typological features of the language, specifically the use of extensive prefixes on verbs. There are at least 50 such prefixes; some of them have spatial adverbial meaning; others express aspect (Törkenczy, 1997).

‘Movement’

Both languages make use of the ‘movement’ domain to some extent; in Hungarian, it has a medium importance in both types of texts (rank 5.5 and rank 6.6 for event and analysis, respectively), whereas in the American data, the domain jumps from rank 4 to rank 2 from event to analysis. To describe a whole chess event, both languages use this domain most of all to express position in the overall standings. Since all expressions involve a verb, the particulars of the languages are strongly felt: many Hungarian expressions include prefixes, whereas many of the American expressions involve manner verbs and prepositional phrases. A couple of nice examples from the American data to describe an event: *trail* (A22), *coast along* (A23), and *crawl into* (A24):

(A22) The world champion, Vladimir Kramnik of Russia, *is trailing* the Hungarian challenger Peter Leko with the score 6-7 and needs to win the last game to keep the title.

(A23) Kramnik *was coasting along* with one victory and three draws.

(A24) The Russian grandmaster *crawled into* first place with two wins and ten draws, finishing with seven points.

The Hungarian expressions include *menetel* [*march*] (H23), *botlik* [*stumble*-‘lose’] (H24), *botladozik* [*stumble repeatedly*- ‘play badly repeatedly’] (H25), and the prefixed verbs *előrelép* [*forward- step* – ‘advance’] (H26) and *feljön* [*up-come* – ‘move up’] (H27):

- (H23) A szenzációsan *menetelő* magyar nők az oroszokkal szemben elért értékes döntetlent követően ..
 ‘After the valuable draw against the Russians, the sensationally *marching* Hungarian women...’
- (H24) A címvédő orosz csapat másodszor *botlott*.
 ‘The Russian defending champions have *stumbled* (lost) for the second time.’
- (H25) *Botladoznak* az angolok, javítottak a lengyelek.
 ‘The English *are stumbling repeatedly* (aren’t playing well), the Polish have improved on their result.’
- (H26) A szép sikerrel a negyedik helyre *lépett előre* női négyesünk.
 ‘With this nice success, our four women *stepped forward* (advanced) to the fourth place.’
- (H27) ..újabb szép sikert ért el női csapatunk, Szlovákiát 2,5-0,5-re verték, és *feljöttek* a negyedik helyre.
 ‘..our women met a nice success again, they beat Slovakia 2.5-0.5, and *up- came* (moved up) to the fourth place.’

To describe a chess game, the domain is ranked second in the American data with 21 different expressions, among them *steer to a draw* (A25), *march his king* (A26), *waver* (A27), and *soft landing* (A28):

- (A25) The new one 16. Qe2 was convincingly *steered to a draw* in the game Ponomariov -Anand, Linares 2002.
- (A26) 30 a5! completes the siege and white can *march his king* to e7.
- (A27) Kramnik begins to *waver*, blocking the bishop.
- (A28) Establishing the outpost on c7 for the *soft landing* of his rook.

Hungarian has only three expressions in this category, the most vivid being the prefixed *jobban jön ki* [*better come out* - get the upper hand] (H28):

- (H28) A folytatásban Lékó gyalogot áldoz, és a bonyodalmakból nagymesterünk *jobban jön ki*.
 ‘Afterwards Leko sacrifices a pawn, and he *better comes out* (emerges with the upper hand) from the complications.’

Intuitively, we would expect this domain to play an important role in the description of a game, commenting on the movement of pieces. This expectation, however, proves to be

true only for the American articles; the Hungarian writers seem to hold it more important to comment on other aspects of the game, or choose such violent verbs that were put into the ‘violent act/movement.’ As for the metaphorical expressions describing the whole event, there seems to be a difference between the two languages in that the Hungarian expressions more directly involve a physical move or step with the legs (*menetel* [*march*], *botlik* [*stumble*-‘lose’], *botladozik* [*stumble repeatedly*- ‘play badly repeatedly’], *előrelép* [*forward- step* – ‘advance’] as opposed to the American verbs (*be back*, *crawl*, *coast along*, *trail*). An admittedly bold speculation for this phenomenon is that what may be at play here is an effect of the traditional link between Hungarians and horses: Hungarians are said to be a ‘horse- riding nation.’ Moreover, there is a widely used Hungarian proverb: *A lónak négy lába van, mégis megbotlik* – A horse has four legs, it still stumbles (‘Even the best makes mistakes’). So, horse has some importance in Hungarian culture, and the piece ‘knight’ was also the most prominent among the pieces on the attribute list of chess for Hungarians.

5.2.2. Conclusion to the domain analysis of metaphors

The investigation of metaphorical source domains revealed some interesting aspects that contribute to our image and understanding of chess in general, and in the two languages in particular.

Looking at source domain usage broadly, we may speculate that the bigger overlap of source domains between the two languages for chess as a game as opposed to a chess event in general is perhaps the result of the fact that the former metaphors are more related to immediate visual and kinesthetic experience- what actually happens on the board and how it happens. Thus, we may speculate that regardless of language, the

subculture of chess players sees chess in a more similar way than the general public in any language. This is further supported by the fact that within each language, there is a slight difference in source domain usage between describing the whole event versus describing a game (in the Hungarian data, four domains come up only in one text type, whereas in the American, this figure is seven). This also implies that the level of involvement may influence how someone perceives the game. Those that follow the analysis are probably more knowledgeable about chess, so their notion of it may differ from that of the laymen. This finding reinforces the opinion articulated during the interviews about the importance of involvement in a game as well as the more subjective nature of this category, as supported by the quantitative findings on category structure. Specifically, this analysis aimed at answering the third research question, namely, how the similarities and differences in the source domains used in metaphorical expressions in American and Hungarian contribute to the emerging conception of chess for the two populations. Overall, there is a moderate overlap-10 out of 19- in source domain usage in the two languages. That some domains would overlap is not surprising, given that chess is a well-known board game in both countries and the actions and entities involved are the same. In the three surveys, the percentage of participants who said they could play chess was very similar for the two populations. Moreover, even though chess as a game was named by fewer Americans than Hungarians, (17 vs 37% of the participants), the Likert-scale ratings of chess for the two populations were relatively close (5.42 vs 5.05), and they fell into the same z- score group (0.00- + 0.5). Finally, 13 of the 19 most important attributes also overlapped. Especially outstanding is the high usage of the domain 'war' in both languages for both text types. This reinforces the

image expressed in the interviews that chess is a strategic, war-like fight. ‘Action’ and ‘movement’ are also widely used domains in both languages for describing the event, ‘physical properties’ for the analysis.

Examining the differences more closely, the most remarkable tendency is Hungarians’ heavier use of the domain ‘gambling/supernatural.’ This seems to support the findings of the attribute list surveys where this population associated chess more with competition and tactics than their American counterparts. This may also explain why ‘violent act/movement’ is more used by this population. In contrast, Americans’ bigger usage of ‘physical properties’ appears to correspond to the overall tendency noted in the surveys, where Americans were inclined to describe observable features of games as opposed to the less tangible traits mentioned by Hungarians. The use of the domain of ‘death’ may be seen as a parallel to the views expressed in the interviews about games in general. Understandably, some domains, and within them, some mappings, are only explainable if we consider the particulars of each language (e.g., Hungarians’ usage of prefixed verbs in ‘spatial relations’ or Americans usage of manner verbs for ‘confining actions’), or if we look at the broader culture (e.g.: ‘confining actions’ and ‘movement’). Below are two extended examples –one from each language- to give a feel of these texts for the reader. We can observe the workings of the domains of ‘war’, ‘physical properties’, and ‘movement’ in the American text, and those of ‘war’, ‘physical property’, and ‘gambling/supernatural’ in the Hungarian.

Peter Leko, the challenger from Hungary noted for his defensive skill, came out fighting and picked the belligerent Marshall Gambit to confront Vladimir Kramnik’s Ruy Lopez. Previously in this series, Kramnik had avoided the Marshall Gambit with careful, tame moves. But this time he picked the most contentious reply, thinking to win. His play showed that he had carefully planned his campaign, but he still made errors, and against Leko’s inspired play, that just would not do. Leko won, taking the lead in the match. Leko took brilliant advantage of the chances he got. When Kramnik went wrong with 24

Qe2, Leko punished him heavily. The main move in the Ruy Lopez is 8 c3, after which White intends to obtain the superior pawn center with 9 d4. If he is allowed to have that weapon, he can mount enduring pressure, not so fondly termed the Spanish torture.

Világos gyalogot nyer, de a sorozatos egyszerűsítések miatt sötétnek komoly döntetlen esélyei vannak. Kramnyik némi gondolkodás után még egy újabb tisztet cserélt, és megkezdődött a nagy stratégiai csata, a meggyengült sötét királyállás ellen a sötét mezőkön tud-e Péter csodát művelni. Rendkívül koncentráltan játszott, minden lépését alaposan meggondolt, Kramnyik pedig egyre idegesebbnek tűnt. Amikor nagymesterünk futóját d4-re varázsolta, már egyre jobban bíztunk nyerésében. [...] Léko Péter pontos királymanőverrel lenyerte Kramnyik bástyáját, minőségelönnyel már csak be kellett fejezni a nagyszerűen vezetett partit. A vilagbajnok nem tudta futóját a nagyátlón védelembe hozni, és a világos király győzedelmesen betört a címvédő állásába.

[White wins a pawn, but because of a series of simplifications Black has serious chances for a draw. Kramnik, after some thinking, exchanged one more piece, and a big strategic battle began whether Peter could make a miracle against the weakened black king on the black squares. He played very concentrated, he considered each of his moves thoroughly, and Kramnik seemed more and more concerned. When our grandmaster conjured up his bishop on d4, we began to trust in his victory more and more. [...]. Leko Peter won Kramnik's rook with a precise king maneuver, with an exchange up he only needed to finish the excellently played game. The world champion could not bring his bishop to the defense on the big diagonal, and the white king broke victoriously into the titleholder's position].

5.3. Analysis of syntactic forms and semantic content in chess articles

This final analysis was carried out with the aim of answering the fourth research question. Specifically, it was investigated how syntactic forms and semantic content in chess articles can be connected to the findings of the previous inquiry tools in relation to chess and to games in general in the two languages. Fourteen articles in both languages, or a total of 5018 (American) and 4253 (Hungarian) words, were analyzed in terms of three types of comments: on alternative moves, on time usage and on new moves.

Whereas the first two analyses are concerned about semantic content, the last analysis is about tense usage. For more details on the data and process, see the *Method* chapter, pp.77-78. When referring to the domains of investigation, I will use small capitals, e.g.: NEW MOVES.

5.3.1. Comments in the domain of TIME

First, the ways usage of time was commented on in the two languages will be investigated. Time is an issue of uttermost importance in professional chess, where players have an allocated amount of time for a specific number of moves (customarily, 2 hours for 20 moves and then 1 more hour till the end). Players need to economize their time wisely, since, regardless of the position on the board, if they go over time, they lose. Altogether, in the Hungarian articles, 84 time expressions were found, and in the American data, 49. These expressions in the TIME domain were categorized into four groups, depending on what they put into focus: 1. thinking and time issues in general (without naming a specific amount of time, e.g.: Anand thought *for a long time* over this move), 2. amount of time used up (e.g.: taking *more than an hour* to get to move eight), 3. amount of time left (By move 20 Grischuk was *down to 14 minutes* on the clock), and 4. difference between the two players in time usage (Already Leko had fallen *more than an hour behind* on the clock). Sometimes expressions belonged to more than one group: Anand *was soon ahead* on the board and on the clock (1, 4). Table 5.3.1 shows the results of this grouping. Column 1 shows the number and percentage of expressions that comment on time usage in general. Column 2 shows these statistics for the expressions about the amount of time that has been used up. Column 3 displays the number and percentage of expressions about the amount of time left, and column four, about time difference. The last six columns, columns 5 to 10, show the number and percentage of expressions in conjunction categories. Column 5 shows the number and percentage of expressions that involve time usage in general in terms of time that has been used up. Column 6 exhibits the number and percentage of expressions that have a general time

term and express difference between players. Column 7 displays the statistics for the conjunction of 2&3, that is, time expressions that include both time used up and time left. Column 8 shows the figures for expressions that include a difference in terms of time used up, while column 9 does the same for expressions that convey difference as to the amount of time still left. Finally, Column 10 shows the number and percentage of expressions that talk about difference in terms of both time used up and time left.

Table 5.3.1. The number and percentages of time expressions by group and language

	Σ	1 time in general	2 time used up	3 time left	4 time differ- ence	5 1&2	6 1&4	7 2&3	8 2&4	9 3&4	10 2, 3,&4
USA	49	17 34.7%	8 16.3%	12 24. %	5 10.2%	1 2%	2 4.1%	1 2%	2 4.1 %	1 2%	0 0%
HUN	84	50 59.5%	12 14.3%	3 3.6%	5 5.9%	0 0%	1 1.2 %	0 0%	5 5.9 %	7 8.4 %	1 1.2%

The most similar percentages appear in the second column, that is, with the comments on the amount of time that has been used up. If we add to this the percentages when this notion is in combination with something else (columns 5, 7, 8, and 10), the difference is still only 3%, with the Americans expressing it more often. The other columns show substantial differences. Hungarians' heavier usage of general time expressions (column 1), holds even when adding the percentages in columns 5 and 6 (60.7 vs 40.8%), and the same is true with column 3 (3 + 7+ 9+ 10) in the other direction, Americans using it more (28.5 vs 13.2). On the other hand, the direction of difference between the percentages in column four changes when we add the combination columns (6, 8, 9, &10) to it, with Americans scoring 20.4% and Hungarians, 22.6%. Logically, this implies that when Hungarians express the time difference between players, they do so in combination with some other information. This can be confirmed from columns 8 and 9 in the table.

In the following paragraphs, I will discuss some remarkable details in a number of the above groups.

In both languages, most of the expressions that address solely the amount of time used up (column 2) do so to emphasize that the player/s has/have used a lot of time already. All 8 American expressions convey this sense, see examples A29 and A30 below:

(A29) Taking *more than an hour* to get to move eight.

(A30) Svidler, being careful to check and double-check his analysis, had used *almost an hour*.

Of the 12 Hungarian expressions, 10 do the same (H29):

(H29) *Miért kellett 45 percet gondolkodni ezen a lépésen?*
'Why *was it necessary to think* for 45 minutes over this move?'

The remaining two, however, focus on how little time has been used (in the Hungarian sentence, the verbal prefix *le* [*down*], combined with the verb *húz* [*draw*] expresses this sense in this specific context; H30):

(H30) *Húsz perc alatt lehúzták a varit.*
Twenty minute below down-drew-3rdPl the variation.
'They made the moves of the variation in just 20 minutes.'

An interesting difference between the two languages is that whereas in the Hungarian sentences, the reference point is always a number divisible by 5 (e.g. *negyedórás gondolkodás* ['*a quarter-of- an-hour think*'], *félórás gondolkodás után* ['*after a half an hour think*'], see also H31), the American expressions make use of these reference points to a lesser extent (A31 but A32):

(H31) Az időkontroll után Morozevics *15 percet* gondolkodott.
'After the time control, Morozevich thought *for 15 minutes*.'

(A31) Svidler had used *almost an hour*.

(A32) Admitted Aronjan, who *spent 28 minutes* on his next move.

Interestingly, the Hungarian expressions change greatly in this respect when the representation of time difference between the players is added to the picture (the combination of 2&4): three of the five expressions there do not stick to the reference points (H32):

(H32) Mindössze *hat percet* használt fel, míg Szvidler ötvenet.
'He used only *six minutes*, whereas Svidler, 50.'

It appears that for Hungarians, it is of prominent importance to give the exact amount of time when talking about the difference between players.

Within the third category and its satellites (columns 7, 9, &10), 8 of the 14 American expressions, or 57%, have a double profile in that beyond the amount of time left, they also indicate how many moves still have to be made. This is either implied (A33), or is expressed explicitly, in the form of 'how much time for how many moves' (A34):

(A33): Using up two of his final four minutes *to reach move 40*.

(A34) With 8 minutes on the clock *for ten moves*.

In three of the eight cases, mentioning or referring to the number of moves still needed is understandable, since the comments are not within the analysis of a game, so there would be no way for the reader to know where the players were in the game. However, in five of the eight cases (63%), the information seems redundant as the placement of the comment leaves no doubt about where we are in the game. Contrary to this, the 11 Hungarian expressions in the category, with one exception (9%), do not mention the number of moves still needed (H33):

(H33) Gelfandnak csak *40 perce* maradt.
Gelfand *had only 40 minutes* left.

Another prominent dissimilarity arises in the expressions that talk about the time difference between players (columns 4, 6, 8, 9, &10). Most (15 of the 19, or 79%) Hungarian expressions profile both players either explicitly, by names (10 expressions, 53%; H34), or with varying degrees of implicitness, with the help of the words *mindkettő* [both] (H35), *kölcsönös* [mutual] (H36), and *különbség* [difference] (H37):

(H34) *Szvidler* 6 percet használt fel, míg *Kramnyik* 1 óra 6 percet.
 ‘*Svidler* used 6 minutes, while *Kramnik*, 1 hour and 6 minutes.’

(H35) *Mindkettőjüknek* kevesebb, mint fél órája maradt.
 ‘They *both* had less than half an hour left.’

(H36) A fenyegető *kölcsönös* időzavarban.
 ‘In the menacing *mutual* time trouble.’

(H37) Már egy óra volt a *különbség* kettőjük között.
 ‘There was already an hour *difference* between the two of them.’

The 10 expressions that clearly name both players use different linguistic tools to profile the difference, the most expressive being *szemben* [opposite- ‘against’], used in three sentences (H38). Four sentences use *míg* [while, or whereas] (H39). Two sentences use the word *csak* [only] (H40).

(H38) *Grischuknak* még 33 perce maradt Péter 1 órájával *szemben*.
 ‘*Grischuk* had 33 minutes left *opposite (against)* Peter’s one hour.’

(H39) *Anand* mindössze 6 percet használt fel, *míg* *Szvidler* ötvenet.
 ‘*Anand* used 6 minutes altogether, *whereas* *Svidler*, fifty.’

(H40) *Aronjannak* még fél órája maradt, *Gelfandnak* *csak* 20 perce.
 ‘*Aronjan* still had half an hour left, *Gelfand*, *only* 20 minutes.’

The four sentences that name or refer to only one player use either the word *időelőny* [time-advantage- be ahead on the clock] or *időhátrány* [time-disadvantage- be behind on the clock] (H41 and H42):

(H41) *Griscsuk* nagy *időelőnybe* került.
Grischuk got into big *time advantage*.
 ‘*Grischuk* was well ahead on the clock.’

(H42) Aronjan jelentős *időhátrányba* került.
Aronjan got into substantial time *disadvantage*.
'Aronjan fell way behind on the clock.'

On the other hand, the bulk (8 out of 10, or 80%) of the American expressions put only one player into our attention scope (A35):

(A35) *Kramnik* gained half an hour with his quiet a3 move.

Except for this example, of the other three sentences that express advantage, two use the words *be ahead on the clock* (A36), and one has *advantage on the clock* (A37):

(A36) Anand was soon *ahead* on the board and *on the clock*.

(A37) His *advantage on the clock* of almost an hour must have helped his good humor.

The three expressions featuring someone's having less time all use the words *fall/be behind on the clock* (A38). One instance picks out the dwindling amount of difference (A39):

(A38) Already Leko had *fallen* more than *an hour behind on the clock*.

(A39) After 41 minutes, almost *catching up on the clock*, Aronjan chooses a poor option.

Of the two expressions that profile both players, one does so explicitly (A40), whereas the other is more implicit (A41). In fact, in A41, it is the two time amounts that are compared, and we just deduce that '5' belongs to the other player.

(A40) With *Morozevich* managing to stay a minute or two ahead of *Grischuk*.

(A41) *Svidler* had *12 minutes to 5* to reach move 40.

To conclude, this analysis showed that time issues in chess are prominent for writers in both languages. Moreover, there is an overlap in the various aspects that are emphasized within time. Nevertheless, outstanding differences give rise to some speculations. First of all, the fact that the American articles more often state how many

moves are still needed could simply be attributable to a presupposition of less knowledge of the audience. This is, however, not likely the case, especially since the American articles come from a web site directly devoted to chess. A hypothesis is that this usage- how much time for how many moves- may be motivated by another sport, football, where teams have a certain number of attempts to advance certain yards. Consciously or unconsciously, this type of reporting may make chess more sport-like for the American audience. Furthermore, Hungarians' naming of the exact time when talking about the difference, as well as their tendency to profile both players in these situations, conveys a sense of competition, especially if we contrast it with the American usage. Mentioning both players turns our attention to the fight between the two, be it on the clock or the board or both. Americans' naming only one player, and also their usage of the words "on the clock", implies more a race against time. This finding is in accordance with previous results, where competition was a high-rated attribute for the Hungarians but not for the Americans.

5.3.2. Comments in the domain of NEW MOVES

Second, the way new moves are commented on in the two languages will be investigated. In competitive chess at the highest level, grandmasters and their seconds spend a huge amount of time to find moves that had not been played before in certain positions. To illustrate the seriousness of this activity, these analyzing units are sometimes dubbed metaphorically as "labs." When a game is analyzed for the press, it is almost a responsibility for commentators to point out if a new move was made. Of course, there are multiple databases with games from different tournaments, so spotting a move as new may depend on where the commentator is looking. Also, these databases are

likely to contain only games played over a certain level, so ‘new’ is a relative term and does not mean the move has never ever been made.

Semantic content of the comments on new moves

Altogether, the American game analyses contained 10 comments on new moves, and the Hungarian, 18. The basic terms in the two languages are ‘new move’ or ‘novelty’ in English and ‘újítás’ [novelty] in Hungarian. Hungarian also has a single verb ‘újít’ [make a new move] to express this content. First, the American comments will be investigated, which will be followed by an analysis of the Hungarian comments. American example sentences are provided in the running text as well as a collection at the end of the discussion of the American examples.

In the American data, of the 10 comments, two are in the most neutral form, reporting on the fact: (A42) *A new move*. Another three says (A43) *The first new move*. What is interesting about this expression is that it contains a seeming tautology: once there is a new move, there cannot be a second new move, so ‘first’ appears logically unnecessary. We may speculate that this usage is motivated by a will to put a stronger emphasis on the newness. The remaining five comments are different from the previously discussed ones in that they name the player who made the new move, e.g.: (A44) *Anand’s new move*. That only half of the comments profile the actor within the domain of NEW MOVE is understandable if we know that the idea may have come from any second on the player’s team, so it is not clear whose “intellectual property” the move is. Besides *Anand’s new move*, one more relatively neutral comment is (A45) *Anand used a novelty*. The remaining three expressions in the domain do not use the words ‘new’ or ‘novelty’, and thus only implicitly convey the idea of newness and focus on a different aspect of the

domain. The first one, (A46) *Kramnik's improvement*, profiles the quality of the new move. This is informative since it is not at all unequivocal that a new move is necessarily a better one objectively; it may just more correspond to the individual player's style or may have a huge surprise effect. The next expression, (A47) *Anand goes his own way*, stresses the element of risk in a new situation, and thus profiles the beginning of a journey into the unknown. Finally, the vaguest expression in the domain is (A48) *Kramnik gained half an hour with his quiet a3 move*. We may only hypothesize (and the corresponding Hungarian article confirms our hypothesis) that this sentence actually describes a new move: otherwise, it would probably not be possible to 'gain half an hour' with it. This time, the result of the novelty (gaining half an hour) and through that, the surprise effect of it, is in focus.

- (A42) A new move.
- (A43) The first new move.
- (A44) Anand's new move.
- (A45) Anand used a novelty.
- (A46) Kramnik's improvement.
- (A47) Anand goes his own way.
- (A48) Kramnik gained half an hour with his quiet a3 move.

In the Hungarian data, 13 of the 18 expressions in the NEW MOVE domain name the player who made the move. In addition, 11 of the 18 expressions contain the word 'újítás' [novelty]; 2 have the verb 'újít' [make a new move], and 2 the adjective új [new]. Three of the sentences contain none of these words. In general, however, most expressions have a specific profile within the domain, so they will be discussed on that basis.

While none of the expressions are in the archeneutral form observed in the American data, within the Hungarian expression, four expressions can be seen as neutral. Two of them are prototypically so in the form of 'X's novelty', as in (H43):

(H43) Anand újítása.
Anand's novelty.

Another two take the form of 'X reported in with a novelty', as in (H44) and (H45).

While the former of these expressions has the secondary focus of 'yet another', and so emphasizes Anand's tendency to make a new move, the latter presupposes common ground of the knowledge as to the identity of the world champion.

(H44) Anand újabb újítással jelentkezett.
Anand reported in with another novelty.

(H45) A világbajnok újítással jelentkezett.
The world champion reported in with a novelty.

Four expressions hint at the questionable nature of what counts as novelty by profiling either the database (H46), or the status of the person who made the move (H47):

(H46) Az adatbázis szerint újítás.
A novelty, according to the database.

(H47) Nagymesterek gyakorlatában még nem fordult elő.
The move has not been played by grandmasters before.

Another four comments put the surprise effect into the focus of attention and three of them spell it out explicitly (see H48). The fourth expression in the surprise profile is the highly metaphorical and expressive (H49). In fact, this sentence has the double focus of surprise and tendency for novelty, but the metaphorical *bomb* makes the former effect more pronounced.

(H48) Kramnyik újítással lepte meg nagymesterünket.
Kramnik surprised our grandmaster with a novelty.

(H49) Kramnyik újabb megnyitási bombája.
Yet another of Kramnik's opening bombs.

Next, three comments convey the meaning that in fact what matters is not simply the new move, but the idea behind it (H50), (H51) and (H52):

(H50) Anand új ötlete.
Anand's new idea.

(H51) Kramnyik új terve.
Kramnik's new plan.

(H52) A vezér megtámadása újítás.
Attacking the queen is a novelty.

Two sentences profile the hard work accompanying a novelty; one of them emphasizes the work done before the game (H53), and the other, the work done at the board (H54):

(H53) Aronjan gyorsan meghúzta, ezért nem kételkedhattünk abban, hogy a felkészülés eredménye az újítás.
Aronjan made the move quickly, so we were in no doubt about the move being the result of the preparation.
(H54) Griscsuk hosszas gondolkodás után újított.
Grischuk made a new move after a long think.

Finally, one sentence profiles the quality of the move (H55):

(H55) Griscsuk megjavította a második fordulóban látott Aronjan- Anand partit.
Grischuk has improved on the Aronjan –Anand game from the second round.

To summarize, this analysis has disclosed both similarities and differences in what aspects the two languages profile within the domain of NEW MOVE. In general and regardless of language, the mere fact that whenever a new move is made it needs to be reported supports the findings of the interviews, where participants expressed that novelty is a key element of any game. One Hungarian article makes a general comment to address this concern pretty straightforwardly: *A sakk jövőjével kapcsolatos szkeptikusokat meggyőzheti, hogy sok új ötlet van még a szupernagymesterek fejében* [*Those skeptic about the future of chess may be convinced now that there are still many new ideas in the head of the super grandmasters*']. Although through different means, both languages hint at the questionable nature of whose idea the new move is. A further similarity is that both

languages have expressions that profile the surprise and quality elements of the new move. Nevertheless, they do so to different extents: especially, Hungarians' heavier focus on surprise is remarkable. This is in line with the findings of the attribute lists in that surprise can be related to tactics, an attribute emphasized by Hungarians. On the other hand, among the differences, it is somewhat unexpected that the American data would have the risk element, which, with its link to gambling, would be more Hungarian-like. At the same time, Hungarians' emphasis on the amount of work novelties involve is in line with the interviews, where this population allowed more for games having to do with thinking than their American counterparts. Finally, Americans' heavier use of more neutral forms may be a reflection of their connecting chess to strategy to a bigger extent than Hungarians, as strategy may be considered a policy more concerned with objective facts than anything else.

5.3.3. Comments on alternative moves

Finally, the syntactic forms, more precisely, the verb tenses which are used when suggesting alternative moves, will be explored. Post-mortem analyses, whether right on the spot or later, are an integral part of chess competitions. This is the stage when players, commentators, and fans, often with the help of computers, investigate possible other moves, or “what ifs.” During these analyses, better, worse, or simply interesting alternatives are commented on. These are moves that had not been made in the actual game. The writers of chess articles, if they want to serve their audience, have to make sure they discuss the most pertinent of these options in their writing.

Verb tenses in chess articles in general

When describing what actually happened in the game, writers have a choice of the present tense or the past tense. Using the present tense conveys a feeling of play-by-play sportscasting, whereas the past tense implies a sense of after-game commentary. The articles under investigation were all written after the games were over; nevertheless, they use both tenses to report what was happening in the games:

Present:

A nagymesterek **követik** az idei foroszi szupervesenyen játszott Karjakin-Onischuk játszmát. The grandmasters **are following** the Karjakin – Oniscuk game, played in Foros this year.

Black's position **is** already on the point of collapse.

Past:

Morozevics **nem fogadta el** az áldozatul kínált gyalogokat. Morozevich **did not take** the offered pawns for sacrifice.

Anand **thought** for a long time over this move.

A factor that may influence tense usage is whether the comments describe the game or move in general, or the actions of a player (see examples above). Therefore, a count on tense usage of the first fifty comments was further divided based on what the comments were made on. Table 5.3.2 summarizes the usage of present and past tense for general description and for comments on players' actions in the first fifty instances of play-by-play (present tense) or post mortem (past tense) commentary.

Table 5.3.2. The usage of present and past tense in the comments by type and language

Lang- uage	Column I. Total # and percentage of play- by -play (present tense) casting out of the first 50 instances	Column II. # and percentage of general comments out of the total in column I.	Column III. # and percentage of comments on players out of the total in column I.	Column IV. Total # and percentage of past tense commentary out of the first 50 instances	Column V. # and percentage of general comments out of the total in column IV.	Column VI. # and percentage of comments on players out of the total in column IV.
USA	26 (52%)	23 (88%)	3 (12%)	24 (48%)	2 (8%)	22 (92%)
HUN	16 (32%)	13 (81%)	3 (19%)	34 (68%)	6 (18%)	28 (82%)

The numbers in the table reveal that whereas Hungarians comment more in the past tense, for Americans, the tenses are split about equally (columns I and IV). Regardless of this difference, both languages have a pronounced tendency to use the present tense when describing the position or move and the past tense when describing the players' actions. Below are some more examples. H56 and H57 are Hungarian sentences in the present tense commenting on the position, while A49 and A50 do the same in English:

(H56) Kompenzáció nélkül **veszít** gyalogot.
It **loses** a pawn without compensation.

(H57) A futópárral, a nagy centrummal világos fölényesen **áll**.
White **has** a superior position with the bishop pair and the big center.

(A49) Black's position **is** now perfectly satisfactory.

(A50) Now the knight **cannot** be prevented from reaching d6 and the game is effectively over.

Conversely, sentences H58, H59, and A51 are in the past tense, commenting on the players:

(H58) Először **gondolkodott** hosszasan a világelső.
This **was** the first time the world's top player **was thinking** long.

(H59) Anand nem véletlenül **tűnődött**.
It is no wonder Anand **was contemplating**.

(A51) Leko, like a true hedgehog player, **saw** no need to clarify the position too quickly.

Verb tenses of alternative moves

Suggestions for alternative moves are couched within the above commentaries.

Again, the verbs in the evaluation part of these suggestions appear in different tenses.

Sometimes, the present tense is used, as in H60 and A52 below:

(H60) 8.....Hxc3 9. bxc3 Fxc3 10. Bb1 Fxd4 [] 11. Hxc4 0-0 folytatásban a sötét vezérszárny nehezen **tud** kifejlődni.
The Black queen side **has** difficulties developing in the 8.....Nxc3 9. bxc3 Bxc3 10. Rb1 Bxd4 [] 11. Nxc4 0-0 continuation.

(A52) 18.....Qxa1 19. Qxb4 **is** hopeless for Black.

Other times, suggestions for alternative moves are in the past tense; see H61 and A53:

(H61) A természetes 27....Ve7 28. h4 Kg7 29. Hxd6 Vxd6 is teljes kiegyenlítést **adott**.
The natural 27....Qe7 28. h4 Kg7 29. Nxd6 Qxd6 also fully **equalized**.

(A53) 21. Rac1! **was** much stronger.

Finally, the counterfactual is another option to evaluate the position emerging after the alternative, as shown in examples H62 and A54:

(H62) Nagy hiba 11 f3?, mert a kötés miatt 11...Hxf3 + 12. Bxf3 dxe4! **jöhetett volna**.
11. f3? is a big mistake; 11...Nxf3 12. Rxf3 dxe4! **could have followed** because of the pin.

(A54) 25...a6 26.axb5 axb5 27. Ra7 **would have been** awkward for Black.

Table 5.3.3 summarizes the frequencies of the usage of these three forms in the suggestions for alternative moves that appear in the frame of the first fifty comments (see previous table) in the two languages.

Table 5.3.3. The usage of verb forms in the evaluations of alternative moves by language

Language	Total # of comments	Present	Past	Counter-factual
USA	37	28 (75.7%)	7 (18.9%)	2 (5.4%)
HUN	27	9 (33.4%)	8 (29.6%)	10 (37%)

The table displays some remarkable differences in the tense usage between the two languages. Whereas Hungarian uses the three options roughly to the same extent, in the American data, the present tense prevails, and the counterfactual is used to a very small extent.

What this analysis of verb tense usage suggests is that when commenting on what was actually happening in the game, the American writing uses the past and present tense to about the same extent, whereas Hungarian uses the past tense somewhat more. This indicates a bigger inclination to make the commentary play-by-play, or sport-like, on the

Americans' part. We would expect a change in tense usage when commentators describe what could have happened but did not. However, the American writing is prone to stick to the present tense even in these situations, whereas Hungarians use the present, past, and the counterfactual interchangeably. This usage of present tense -described as "timeless and universalizing" (Johnstone, 1987, p. 50) - in the American data makes these comments sound like more theoretical speculations, trying to find "truths" in a specific position. At the same time, this usage corresponds to that found in other live commentaries of other sports in the US. Hungarians' more frequent usage of the counterfactual, on the other hand, stresses more the aspect of not-done, and thus distances us from the positions that have not emerged. These types of comments make the reporting more sport-like in the sense that moves that hadn't been made are of secondary importance since the game is over.

5.3.4. Conclusion to the analysis of semantic content and syntactic form

The aim of this analysis of semantic content and syntactic form in chess game comments was to find further links between thinking and talking about games in general, and chess in particular. In this respect, the comments on time usage, especially the expressions of time difference, support the survey findings in that Hungarians seem to emphasize the competition element of the game more than Americans do. On the other hand, Americans' pattern of amount of time+ number of moves evokes an image of other sports, especially football, which can be seen as a wish to make this game similar to others, and more sport like. The comments on the new moves first of all verified the opinion voiced in the interviews that newness is an indispensable element of games for both populations. Findings concerning surprise and work in relation to new moves also

back up previous results, whereas the element of risk being emphasized by Americans is somewhat unexpected. Finally, the usage of more neutral forms in the American data can be associated with the importance they put on strategy. The analysis of verb tenses revealed that, similarly to the time issues, Americans play-by-play style commentary, with a higher usage of present tense, makes this game similar to other sports. On the other hand, using present and past tense with hypothetical moves that had not been played suggests that an objective, science-like analysis of the game is more important to Americans than for Hungarians. This is in line with the traditions of other sports in the US (Gorrell, 1995). Hungarians' heavier usage of counterfactual puts more emphasis on the fact that these moves were not made, and thus makes the commentary more sport-like in the sense that whatever didn't happen doesn't really matter any more. Again, the pattern is similar to that used in other sportscasts.

The next chapter, Chapter 6, will bring together the most important findings of Chapters 4 & 5, with special attention to answering the research questions. The limitations of the study as well as ideas for further research will also be discussed.

CHAPTER 6

CONCLUSION

This study sought to find out how the concept of GAME and some individual games are perceived, thought of, and talked about by speakers of American English and Hungarian. Here, the most important findings of the inquiries will be reviewed.

First, three surveys were conducted in order to find similarities and differences between Americans and Hungarians as to the graded structure of the category. The results of the first survey, the elicitation, show that members of the two populations name a similar, wide range of activities as games. These include, among others, sports, board games, card games, computer games, video games, children's games, word games, some common everyday activities, and some metaphorical extensions like life, or school. Beyond the similarities of sheer naming, the conspicuousness of some subgroups, proven by the naming frequencies, shows remarkable differences between the two groups. Specifically, Americans name individual sports more often than Hungarians and more often than any other games. This is proven by the high number of sports in the twenty most often mentioned items as well as by the naming frequency of sports in the whole dataset. Hungarians also name sports frequently; however, for this group, board games are mentioned with similar frequency and card games do not lag behind much, either. Hungarians name word games and children's games more frequently than Americans, whereas the opposite is true for drinking games. An interesting unexpected finding was that the two populations showed a difference in the naming of certain category levels:

Hungarians tended to name superordinate terms like ‘card games’ or ‘board games’ with higher frequency when compared to individual instances than Americans. Finally, the metaphorical extension ‘life’ was named to a similar extent by the two groups; at the same time ‘school’ was mentioned more often by Americans, and ‘travelling’ and ‘chatting’ by Hungarians. The cross-cultural variation at this stage confirms Hampton and Gardiner’s (1983) suggestion that cross-linguistic associative frequency may show variation due to the effects of language and culture.

The results of the Likert -scale survey further corroborate the leading role of sports in the category of GAME for Americans. The first three rated items are all sports and constitute a separate group based on the *z*- scores. For Hungarians, board games win over sports in the Likert-scale and are thus considered the center of the category. The second *z*- score group includes similar items for both groups. Some further remarkable differences are in the placement of *tennis* and *golf*, being much more typical for Americans, and *tag*, *Frisbee*, and *blurt/szólánc*, which are more central for Hungarians. Moreover, the metaphorical extensions *life* and *school* are more peripheral for Hungarians than for Americans. If we consider that the prototypes seem to differ for the two cultures, differences in the position of other items are not surprising (Schwanenflugel, Blount, & Lin, 1991).

As to the category structure, items show graded membership. Nevertheless, the category differs from previously examined concepts in that there is bigger disagreement between subjects in the ratings of the most typical items: only 77% of Americans give a rating of 7 to *football*, and only 55% of Hungarians do the same with *Activity*. These figures are much lower than the ones that have been found for other categories (Rosch,

1973, 1975). The results of the attribute lists also support the category's distinctiveness from other prototype categories to the extent that family resemblance scores were not correlated with typicality ratings. The fact that this category would show this structural uniqueness is not surprising if we consider the extremely wide range of activities it subsumes. The category likely involves a degree of subjectivity so that individual preferences are projected to category judgments. Finally, the low number (8) of individual items included in the attribute list survey may also be responsible for some of the results since definite conclusions about family resemblance scores require the inclusion of more items. At the same time, the relationship between the percentage of attribute overlap between individual items and the superordinate on the one hand, and typicality on the other, implies that this may be the effect by which the graded structure of the category can be accounted for. In general, more typical items tended to share more of the attributes of the category concept than less typical items. This supports some of the earlier findings (Ashcraft, 1978), and also warrants a consideration for the degree to which an item possesses a feature (Hampton, 1979), which was considered in the ranked attributes.

The two populations' attribute lists for the concept of GAME itself again reveal some outstanding differences. Whereas 'fun' scores the highest for both groups, the other important attributes for Americans ('win', 'competition', 'lose', 'teams', and 'ball') convey a sense of team sports played with a ball. For Hungarians, attributes like 'joy', 'relaxation', 'cheerfulness' and 'hilarity' imply a feeling of unrestrictedness and easiness. On the American list, beyond 'fun', only 'entertainment' suggests a similar picture. The high score of 'children' for Hungarians is also noticeable. Among the individual games,

chess's lists are worth reviewing since texts on this game underwent closer analysis in later sections. Interesting differences are that whereas Americans incline to name individual chess pieces, Hungarians rather stay with the more general 'pieces.' Moreover, the highest scoring individual piece is the 'knight' for Hungarians and the 'king' for Americans. Other important attributes for only Hungarians are 'logic', 'competition', and 'tactics', and those that appear only for Americans include 'nerds' and 'old.' Across all the attribute lists, Hungarians show a tendency to remain at a more general level, whereas Americans tend to name more attributes closely related to the physical surroundings of a certain game.

After the completion of the surveys, the next research tool was semi-structured interviews with volunteers from both populations. It was hypothesized that, by freely talking about game experiences and perceptions, participants would reveal important aspects of games that may have remained hidden from the survey questions. Thus, being in a 'company' emerged as an important element of games for Americans, whereas the 'competition' element appeared for Hungarians. Interestingly, though, looking deeper into this latter theme, we find that 'winning' is not as important for Hungarians as for Americans, which is in accordance with the attribute lists. 'Skills', unmentioned in the previous data, appeared as a factor influencing an activity's game-likeness for both groups. The nice images of 'appeal' for Hungarians, and 'novelty' and 'involvement' as important contributors of games for both groups is also an addition of the interviews, just like the revelation that a strong association with 'money' has a negative effect on game-likeness. The prominence of 'strategy' in games for Americans supports previous findings. An interesting insight was gained through the questions that "forced" a

distinction between sports and games: Americans appeared to more readily be able to put into words how these two are different, while Hungarians hesitated more. This is surprising if we consider that in the surveys, Americans tended to blur the two to a larger extent in that their most typical games are the most popular sports. This suggests that in the case of this category, judgments on typicality may not be based on comparing the features of the item to those of the category concept. Rather, a more intricate representation may be present where the access node 'games' is likely closely linked to 'sports' in the network of knowledge and the link is easily activated, regardless of the otherwise expressible difference between the two concepts. Comments on *chess* further back up the attribute lists' finding that for Americans, 'strategy' is a highly visible ingredient of this game; 'logic' and 'competition' came up for this population as more important than the attributes implied. One interviewee in each group held it important to mention that their view of *chess* is different depending whether it is played for fun or competitively/professionally. This supports the idea of variance in representation (Hampton, 2007), where categorization may be influenced by different instantiations of the member or the category in a given situation. This is one of the contextual effects that I propose could be investigated systematically with this category. 'Strategy' is probably less fundamental for Hungarians as it is mentioned only by one person. Finally, both groups had an interviewee who formulated the CHESS IS WAR metaphor.

The linguistic analyses in this study involved a domain analysis of metaphors in chess articles and semantic and syntactic analyses of some phenomena in chess, as expressed in writing. All of these explorations were informed by cognitive linguistic principles. In line with the conceptual theory of metaphor, metaphoric expressions were

assigned to source domains in both languages. The analysis involved numerical comparison of the frequencies with which the domains were used as well as an investigation of individual expressions within the most important/exciting domains. It was found, first of all, that both languages use source domains previously identified for other sports, like 'war,' 'violence' or some form of 'art.' About half (53%) of the domains overlap between the two languages, and there is a bigger overlap in domains describing a chess game than in domains describing a whole chess event. This can be hypothetically explained by considering that descriptions of an actual chess game are more closely related to physical sensations, such as seeing the pieces move, or moving the pieces ourselves. These actions may lead to more similar conceptualizations if we speculate that they may involve more immediate contiguities between two experiences (Kövecses, 2002). Another explanation is that the subculture of chessplayers may to some extent override the broader culture and thus trigger the usage of more similar metaphors in the game analyses. The importance of the 'war' domain for both populations is in accordance with the interviews, and also with the 'strategy' feature on the attribute lists. Important differences can be spotted in the use of the domains 'violent act/movement' and 'supernatural/gambling,' both of which are used more frequently by Hungarians. A speculation is to tie this finding back to the attribute lists and interviews, where the competition and tactical elements appeared as more important for Hungarians. A tentative link can be sensed between violence and competition and tactics and gambling. Also, the importance of the 'supernatural' may be attached to the reasonably hard-to-explain aspect of 'appeal' of games in the sense that both are out of our control. At the same time, Americans make significantly bigger use of the domain 'physical properties,' which

mainly include adjectives. The higher usage of adjectives by Americans can be observed in the attribute lists for chess. The Hungarian mappings in the domain of ‘death’ corroborate the view expressed in the interviews that novelty is of uttermost importance to games. Naturally, source domains may reflect not only cognitive processes, but the particulars of a language and the influence of culture. Thus, the prominent American source domain ‘confining actions’ and ‘movement’ may be a result of the language’s tendency to express manner and speed of motion in verbs, as well as a broader cultural appreciation for space. Similarly, Hungarian expressions in the domains of ‘spatial relations’ and ‘movement’ are facilitated by the language’s extensive prefix system, and an additional link is suspected between the cognitive and cultural importance of ‘horse’ and some of the expressions in the ‘movement’ domain. The importance of supernatural forces in the Hungarian data may also be connected to the cultural trait of fatalism of Hungarians (Kövecses, 2006). Overall, it appears that we can observe remarkable cross-cultural differences, which at the same time, are interrelated with the effects of the subculture of chess players. One more general observation is that even with similar source domains, the mappings are sometimes different, which supports Deignan’s (2003) assertion about the cross-cultural difference in salience of features of the same source domains.

The final analysis included an investigation of the phenomenon of time usage and of new moves conducted through a broadly conceived frame semantic approach, as well as an analysis of tense usage in the discussion of alternative moves, motivated by studies on tense usage in other sports. One outstanding finding in the comments on time usage is Americans’ inclination to not only indicate the amount of time left but also to name the

number of moves needed to be made within this time. It is hypothesized that this usage may be motivated by the traditions of other sports where the relationship between time and attempts is of great importance. There is also a remarkable difference in the linguistic expressions that describe time difference: whereas the overwhelming majority of the Hungarian expressions profile both players, the American phrases tend to name only one player. This difference suggests that for Hungarians, time difference is conceived of as part of the competition between the two players, whereas for Americans there seems to be a separate race against time. The analysis of the comments on new moves yielded both confirmation of and doubt about previous findings. Whereas new moves are important for the theory of this game, the interviews attest that novelty is inherently vital not only to chess, but other games, too. Hungarians' bigger emphasis on the surprise aspect of new moves seems to back up the image emerging after the preceding analyses, namely, that for Hungarians, the dynamic tactical elements are more important than the strategy of the game. On the other hand, Americans' foregrounding of the risk element is somewhat of a surprise if we think of it being related to gambling, which, in turn, appeared more in the Hungarian metaphors. At the same time, Americans also use more neutral forms, which again falls more into line with previous results. Finally, the pattern of the usage of verb tenses seems to follow each language's traditions of sport commentaries in general.

Although all texts are post-mortem analyses, a present tense play-by-play style casting is attempted in both languages, the extent being observably higher for Americans.

Americans' low usage of counterfactuals for hypothetical situations also corresponds to the pattern in other sports. As Gorrell (1995) observes, this usage may be motivated by an inclination to state courses of action that are generally true, which in turn implies a link

between sports and science for Americans. Hungarians' equal usage of present, past, and counterfactual forms for hypothetical situations implies a tension between the quest for truth and the importance of focusing on the present and not wasting time 'crying over spilt milk.'

In summary, different angles of the concept of game have been highlighted through the different data collection methods. It appears that we can talk about a general schematized GAME frame for each population with both groups having different subframes of different strength. For Americans, the general GAME frame includes a group of people coming together to compete with their minds or bodies while having fun. The strongest, main subframe is that of strategic team sports, played with a ball with the purpose of winning while having fun. Important elements are calculated risk, time, and action. Other, less strong subframes include a frame for board games, where sides are still competing but winning may be important to some people but not all. Another subframe is that of less structured game activities, like throwing a Frisbee or catching a ball. Sports that are not team sports, for example *golf*, belong to one more subframe, where the elements of competition, winning and money stand out.

For Hungarians, the general GAME frame involves one person or a group of people engaging in an appealing physical or mental activity out of their free will in their leisure time to relax. The most important subframe is the one of board games, involving a group of people who come together to have fun and joy while playing. They immerse themselves in play but do not hold it absolutely important to win since it is not entirely under their control. Subframes include versions of games that can be played professionally and thus be made into a sport where winning is important. Violence may

be an element of these games. Another subframe is that of card games which are played for fun and where luck plays a role.

As the departing point of the study was a claim to the link between cognition and language, the most intriguing findings are held to be those that imply such a relation. For example, the tentative correspondences that can be established between the attribute lists and the metaphors, linking tactics to supernatural/gambling, or between the interviews and the metaphors, linking strategy and war, belong to these discoveries.

From the numerous limitations of the study, the most influential is probably the mental capacities of the author. The imprint of having been an active part of Hungarian culture for over three decades has most likely led her to a different degree of sensitivity to linguistic and cultural phenomena in a study where one of the investigated sides is Hungarian. Apart from this, the limited number of games for which feature lists were obtained, as well as the single focus on written *chess* articles for the text analyses warrants caution.

Throughout the study, a couple of themes have emerged that deserve further investigation. One of them is locating the basic level for the category in the two cultures. This, together with an investigation of feature lists for a larger number of individual games at the appropriate level may result in a more reliable account for the determinants of typicality. The inclusion of a wider range of games and sources may help pin down conditions under which a certain instantiation is activated from the competing GAME frames. It is the author's hope that circumstances will allow her to address these issues in a number of subsequent studies on the topic.

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APPENDIX A: SAMPLE SURVEYS

This is a simple experiment to find out what comes to people's mind when they hear the word *game*. Please list everyday activities that you consider as a *game*. Try to include a wide range of things- activities that are no doubt games and activities that are less typical games. Remember that there are no right or wrong answers; put down anything that you think is a *game* in one way or another.

For example, if the word was *furniture*, maybe you would put down words like *chair*, *table*, *sofa*, *tv*, *ashtray*, *vase* etc.

So, take a deep breath and put down as many *games* as you can think of in the next two minutes, please.

Games:

This is a simple survey to find out how people view some activities. More specifically, you are asked to judge how good an example of a category various instances are. On a scale from 7 to 1, please indicate to what extent you think the following activities belong to the category “game”.

On the scale, 7 means “typical game”

1 means “very bad example of a game” or “does not belong to this category”

	typical game						very bad example
football	7	6	5	4	3	2	1
chess	7	6	5	4	3	2	1
frisbee	7	6	5	4	3	2	1
tag	7	6	5	4	3	2	1
Monopoly	7	6	5	4	3	2	1
golf	7	6	5	4	3	2	1
poker	7	6	5	4	3	2	1
crossword puzzle	7	6	5	4	3	2	1
chatting	7	6	5	4	3	2	1
blurt	7	6	5	4	3	2	1
tennis	7	6	5	4	3	2	1
school	7	6	5	4	3	2	1
playstation	7	6	5	4	3	2	1
life (not the board game)	7	6	5	4	3	2	1
scrabble	7	6	5	4	3	2	1
basketball	7	6	5	4	3	2	1
solitaire	7	6	5	4	3	2	1
sex	7	6	5	4	3	2	1
candy land	7	6	5	4	3	2	1
badminton	7	6	5	4	3	2	1

This is a simple experiment to find out what comes to people's mind when they hear a common concept. For example, for *war*, we might think of words like enemy, hatred, missiles, win, negotiate etc.

You will see a concept at the top of the next page. You'll have a minute and a half to write down all the attributes of the concept you can think of. Do not just free associate, please- for example, if *war* reminds you of your grandfather, do not write down *grandfather*.

Now I would like to ask you to take some minutes and answer some simple questions about yourself, please.

1. Your age:_____ years
2. Your native language: _____
3. What other languages do you speak? List them, please.

The first part of the following questions is yes/no questions. Please, indicate the true answer for yourself with an “x” or a tick (✓) at the right place.

4. Have you ever lived abroad for an extended period of time (minimum 1 year)?
___ yes
___ no

If yes, where?

5. Do you regularly (at least once in every two weeks) participate in some game activities? ___ yes
 ___ no

If yes, what is this game/what are these games? List them, please.

6. Can you play chess? ___ yes ___ no

If yes, do you play or have you ever played competitive chess? ___ yes ___ no

Your participation in this survey is highly appreciated. If you have any comments about the questionnaire, please put them down in the space below. Thank you!

Ez az egyszerű kísérlet azt szeretné kideríteni, hogy mi jut az emberek eszébe, ha azt a szót hallják, hogy *játék*. Kérem, soroljon fel olyan minennapi tevékenységeket, amiket ön *játéknak* tekint. Próbáljon meg minél szélesebb körből választani,- gondoljon tevékenységekre, amelyek kétségtávol *játékok*, de olyanokra is, amelyek kevésbé tipikusak. Itt nincs helyes vagy helytelen válasz,- kérem soroljon fel mindent, amiről úgy gondolja, hogy valamilyen módon *játék*.

Például, ha a megadott szó a *bútor* lenne, akkor ön talán olyan szavakat írna le, mint *szék, asztal, pamlag, tèvè, hamutartó, váza* stb.

Kérem tehát, hogy vegyen egy mély lélegzetet, és soroljon fel annyi *játékot*, amennyit tud a következő két percben.

Játékok:

Ez egy egyszerű kísérlet, amely szeretné kideríteni, hogy az emberek hogyan látnak néhány tevékenységet. Kérem, a 7-től 1-ig terjedő skálán jelölje karikázással, hogy az ön véleménye szerint a következő tevékenységek milyen mértékben tartoznak a „játék” kategóriába. A skálán a 7 azt jelenti, hogy „tipikus játék”, az 1 azt jelenti, hogy „nagyon rossz példa a játékra”, vagy „nem tartozik a játékok közé”

	tipikus játék						nagyon rossz példa
foci	7	6	5	4	3	2	1
pasziánsz	7	6	5	4	3	2	1
frizbi	7	6	5	4	3	2	1
fogócska	7	6	5	4	3	2	1
Activity	7	6	5	4	3	2	1
Gazdálkodj okosan!	7	6	5	4	3	2	1
élet	7	6	5	4	3	2	1
póker	7	6	5	4	3	2	1
keresztrejtvény	7	6	5	4	3	2	1
kosárlabda	7	6	5	4	3	2	1
sakk	7	6	5	4	3	2	1
playstation	7	6	5	4	3	2	1
iskola	7	6	5	4	3	2	1
tollas	7	6	5	4	3	2	1
beszélgetés	7	6	5	4	3	2	1
scrabble	7	6	5	4	3	2	1
tenisz	7	6	5	4	3	2	1
szex	7	6	5	4	3	2	1
szólánc	7	6	5	4	3	2	1
golf	7	6	5	4	3	2	1

Ez egy egyszerű kísérlet, amely szeretné kideríteni, hogy az emberek mire gondolnak, amikor egy bizonyos hétköznapi fogalmat hallanak.

Például, a háborúval kapcsolatban eszünkbe juthat az ellenség, gyűlölet, rakéta, győzni, tárgyalni, stb.

A következő lap tetején látni fog egy fogalmat. Másfél perc áll a rendelkezésére, hogy felsorolja a fogalom összes jellemzőjét, ami eszébe jut. Ne csak szabadon asszociáljon, - például, ha a háborúról a nagyapja is eszébe jut, azt ne írja le.

1. Az ön kora: _____ év
2. Anyanyelve: _____
3. Milyen egyéb nyelveket beszél? Kérem, sorolja fel.

A következő kérdések első része eldöntendő (igen/nem) kérdés. Kérem iksszel (x) vagy pipával (✓) jelezze az önre igaz választ a megfelelő helyen.

4. Élt valaha hosszabb ideig (minimum egy év) külföldön? ____ igen ____ nem
Ha igen, hol?

5. Részt vesz ön rendszeresen (legalább kéthetente egyszer) valamilyen játékban?
____igen ____nem

Ha igen, mi ez a játék, vagy mik ezek a játékok? Kérem, sorolja fel:

6. Tud ön sakkozni? ____igen ____nem
Ha igen, sakkozik vagy sakkozott ön valaha versenyszerűen? ____ igen ____ nem

APPENDIX B: IRB FORMS

Oklahoma State University Institutional Review Board

Date: Monday, May 09, 2005
IRB Application No AS0583
Proposal Title: The concept of 'game' in English and Hungarian

Reviewed and Exempt
Processed as:

Status Recommended by Reviewer(s): Approved Protocol Expires: 5/8/2006

Principal
Investigator(s)

Judit Simo	Carol Moder
92 S. Univ. Place Apt. 10	205 Morrill
Stillwater, OK 74075	Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

☒ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 415 Whitehurst (phone: 405-744-5700, emct@okstate.edu).

Sincerely,


Sue C. Jacobs, Chair
Institutional Review Board

Oklahoma State University Institutional Review Board

Date: Tuesday, March 28, 2006 Protocol Expires: 3/27/2007
IRB Application No: AS0583
Proposal Title: The concept of 'game' in English and Hungarian

Reviewed and
Processed as: Exempt
Continuation

Status Recommended by Reviewer(s): **Approved**

Principal
Investigator(s) :

Judit Simo
92 S. Univ. Place Apt. 10
Stillwater, OK 74075

Carol Moder
205 Morrill
Stillwater, OK 74078

Approvals are valid for one calendar year, after which time a request for continuation must be submitted. Any modifications to the research project approved by the IRB must be submitted for approval with the advisor's signature. The IRB office **MUST** be notified in writing when a project is complete. Approved projects are subject to monitoring by the IRB. Expedited and exempt projects may be reviewed by the full Institutional Review Board.

- ☒ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

Signature :


Sue C. Jacobs, Chair, Institutional Review Board

Tuesday, March 28, 2006
Date

Oklahoma State University Institutional Review Board

Date: Tuesday, February 27, 2007 Protocol Expires: 2/26/2008
IRB Application No: AS0583
Proposal Title: The concept of 'game' in English and Hungarian

Reviewed and Processed as: **Modification/Continuation**

Status Recommended by Reviewer(s) **Approved**

Principal Investigator(s) :

Judit Simo
92 S. Univ. Place Apt. 10
Stillwater, OK 74075

Carol Moder
205 Morrill
Stillwater, OK 74078

Approvals are valid for one calendar year, after which time a request for continuation must be submitted. Any modifications to the research project approved by the IRB must be submitted for approval with the advisor's signature. The IRB office MUST be notified in writing when a project is complete. Approved projects are subject to monitoring by the IRB.

☒ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

Signature :


Sue C. Jacobs, Chair, Institutional Review Board

Tuesday, February 27, 2007
Date

VITA

Judit Simo

Candidate for the Degree of

Doctor of Philosophy

Thesis: THE COGNITIVE CONCEPT OF GAME IN AMERICAN ENGLISH AND HUNGARIAN

Major Field: English

Biographical:

Education:

- B.A/M.A in English and Russian Linguistics and Literatures
Janus Pannonius University, Pecs, Hungary
June 1994
- Completed the requirements for the Doctor of Philosophy in English (TESL/Linguistics)
Oklahoma State University, Stillwater, Oklahoma
May 2008

Experience:

- Teaching Associate (ESL Composition instructor) Dept. of English
Oklahoma State University
August 2004- May 2008
- Writing Center tutor in the Dept. of English
Oklahoma State University
August 2003- May 2004, Spring and summer 2006
- EFL teacher, Department of Foreign Languages
University of Veszprem, Hungary,
1994-2003

Professional Memberships:

- AAAL (American Association for Applied Linguistics)
- IPrA (International Pragmatic Association)

Institution: Oklahoma State University

Location: Stillwater, Oklahoma

Title of Study: THE COGNITIVE CONCEPT OF GAME IN AMERICAN ENGLISH
AND HUNGARIAN

Pages in Study: 217

Candidate for the Degree of Doctor of Philosophy

Major Field: English

Scope and Method of Study: This study explores the meaning of the concept of *game* for speakers of American English and Hungarian by investigating the exemplars of the category, their attributes, and their links to the findings of a linguistic examination of texts written on a specific game, chess. The main goal is to pin down similarities and differences between typical and less typical members of the category for the two populations as well as explore in more detail the main game frames for the two groups.

Findings and Conclusions: Surveys conceived of in the traditions of prototype category inquiry reveal that, apart from a basic overlap in contents, for Americans, *game* first of all means sports, whereas for Hungarians, board games lead the way. Moreover, children and joy appear to be more prominent aspects of games for Hungarians, and Americans link games first of all to fun and competition. Interviews add the strategy and company dimensions to games for Americans, and for Hungarians, purity and competition appear as significant aspects. The domain analysis of chess metaphors shows a substantial overlap in source domain usage between the two languages. On the other hand, and in support of the quantitative data, Hungarian proves to use expressions of more violent actions and relies more on the supernatural when describing this game. A construction and frame analysis of a number of phenomena described in a chess game also bears out the subtle differences in the two populations' concept of chess.

A secondary aim of the study is to investigate the structure of the category in the two languages. Contrary to earlier findings with categories of natural objects, the present study did not find a correlation between typicality and family resemblance. At the same time, the amount of property overlap between members of the category and the superordinate seem to be correlated with typicality.

The results of this study indicate that despite the similarities between the contents of the concept of *game* for speakers of American English and Hungarian, the significant differences in how people perceive this concept also translate into the ways how descriptions of games are linguistically constructed.

ADVISER'S APPROVAL: Carol L. Moder
