Doctoral (PhD) Dissertation

Narratives in response to visual stimuli: A comparative analysis of cultural schemas and implicit motives among Hungarian and Jordanian bilinguals in EFL context

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STATEMENT

This dissertation, written under the direction of the candidate's dissertation committee and approved by the members of the committee, has been presented to and accepted by the Faculty of Humanities in partial fulfillment of the requirements for the degree of Doctor of Philosophy. The content and research methodologies presented in this work represent the work of the candidate alone.

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Narratives in response to visual stimuli: A comparative analysis of cultural schemas and implicit motives among Hungarian and Jordanian bilinguals in EFL context

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ABSTRACT

This dissertation explores cross-cultural differences in narrative construction and motivational drivers among 230 Hungarian and Jordanian bachelor students from different universities in Hungary and Jordan studying English Studies, English Literature, or Linguistics within the context of English as a Foreign Language (EFL). The research is structured into three studies, each employing a combination of qualitative and quantitative methods to analyze written narratives. The participants' mean age was 21 years (range 18–25) and were tasked with writing narratives in response to various stimuli, including a silent film and Thematic Apperception Test (TAT) picture cards. Through the application of thematic analysis (TA) and the Linguistic Inquiry and Word Count (LIWC-22) tool, these studies shed light on how cultural contexts shape, through cultural schemas, narrative expression and motivational tendencies.

The first study (Chapter 4) involves 130 participants (66 Hungarians and 64 Jordanians). They were asked to write narratives in English after watching a silent film. This study asked 130 bilinguals (66 Hungarians, 64 Jordanians) to write English narratives in response to a silent film, revealing how deeply cultural schemas shape L2 storytelling. Although both groups drew on universal themes of autonomy and regret, Hungarians' texts exhibited more analytic, individually focused language and foregrounded intimate courtship moments, while Jordanians favored emotive, authentic expression, framed relationships through marriage schemas, and activated family-duty and faith-based gratitude. Divergent construals of settings (train versus bus stations) and social roles further highlighted individualism versus collectivism, demonstrating that even a shared second language becomes a canvas for expressing both globalized motivations and culturally specific worldviews. LIWC-22 identified higher emotional tone and authenticity in Jordanian narratives, while Hungarian narratives exhibited more analytical thinking.

The second study (Chapter 5) explores cross-cultural differences in narrative construction among Hungarian and Jordanian bilingual university students. A total of 100 participants (50 Hungarians, 50 Jordanians) wrote English narratives in response to four Thematic Apperception Test (TAT) picture cards. This study uncovered universal themes of love, loss, and betrayal but diverging deeply in narrative framing and resolution: Hungarian accounts emphasized personal agency, self-expression, decisive action, non-marital romance, and even the echo of wartime memory, whereas Jordanian stories revolved around familial obligation, emotional interdependence, reconciliation, marriage as the core relational structure, and culturally prescribed

gender roles. These contrasts in conflict resolution, role dynamics, event scripting, and emotional focus mirror Hofstede's individualism–collectivism and power-distance dimensions, showing how English's narrative scaffolding becomes a vessel for activating either self-directed schemas or duty-bound communal schemas in L2 storytelling.

The third study (Chapter 6) examines the same 100 participants' narratives from study 2 through a quantitative analysis focusing on the motivational drivers of achievement, power, and affiliation. The narratives were analyzed quantitatively with a focus on the motivational drivers of achievement, power, and affiliation. Motive Disposition Theory (MDT), the Linguistic Inquiry and Word Count tool (LIWC-22), and statistical tests (Descriptive, MANOVA, and ANOVA) in SPSS were used to assess motivational and linguistic-psychological differences. The results indicate that affiliation motives were significantly different between the Jordanian and Hungarian participants with a small effect size observed. Achievement motives showed minimal cultural variation, and power motives revealed no differences between the two groups. A card-by-card analysis highlighted that themes involving family and gender roles were the most culturally differentiated, especially in narratives related to mother-child dynamics. Picture cards with emotionally charged scenarios involving personal struggles elicited more universally shared responses. In sum, this research underscores the profound impact of cultural background on narrative construction, offering implications for cross-cultural psychology, applied linguistics methodologies, and bilingual education practices.

Together, these studies provide a comprehensive understanding of how bilingual university students navigate cultural and linguistic influences in EFL narrative construction. Surprisingly, no matter how fluently we are able to speak the second language, first language influences in conceptual representation can modify the linguistic expression of concepts related to the second language. The results contribute to cross-cultural psychology, applied linguistics, and bilingual education by demonstrating that narrative production is not solely shaped by linguistic proficiency but also by deep-seated cognitive and motivational processes tied to cultural identity. This dissertation highlights the need for culturally responsive pedagogical approaches that recognize the psychological and emotional dimensions of second-language writing.

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LIST OF ABBREVIATIONS

EFL	English as a foreign language
CL	Cultural Linguistics
TAT	Thematic Apperception Test
LIWC-22	Linguistic Inquiry and Word Count
MDT	Motive Disposition Theory
TA	Thematic Analysis
BLP	Bilingual Language Profile
L1	First Language
L2	Second Language
CLI	Cross Linguistic Influence
CST	Cognitive Schema Theory
IRR	Interrater Reliability
ICR	Intercoder Reliability
CEFR	Common European Framework of Reference for Languages
VSM	Values Survey Module
LD	Lexical Diversity
VocD	Vocabulary Diversity
MTLD	Measure of Textual Lexical Diversity
WPS	Word Per Sentence
WC	Word Count
ANOVA	Analysis of Variance
MANOVA	Multivariate Analysis of Variance
SBSS	Statistical Package for the Social Sciences
DTM	Document-Term Matrix

LIST OF FIGURES

LIST OF TABLES

TABLE OF CONTENTS

CHAPTER ONE

INTRODUCTION

1.1. Introduction

In our increasingly interconnected global world, English operates as a main lingua franca, facilitating not only international diplomacy, commerce, and cultural exchange but also bridging significant linguistic and cultural divides (Rao, 2019; Jenkins, 2020). Thus emerges the imperative study of English as a Foreign Language (EFL hereafter), equipping individuals to engage meaningfully with the global community and to participate in vital cross-cultural dialogues (Cook, 2007). However, the teaching and learning of English are not just about linguistic skills. As Byram (1997) and McKay (2003) argued, language learning involves understanding the cultural context in which a language is used, requiring learners to engage with the customs, values, and worldviews of its speakers. Building on Byram's model of intercultural competence and McKay's emphasis on contextualized language learning. This dissertation goes further by demonstrating, through cross-cultural narrative tasks, that learners do not simply acquire linguistic forms but re-frame entire story schemas according to their cultural backgrounds. By comparing Hungarian and Jordanian bilinguals writing in English, I show how culturally grounded values shape narrative structure, thematic focus, and even perceptual pick-up (e.g. figure–ground alignment) in a foreign-language setting.

Through three integrated research studies, the dissertation explores the cultural and psychological influences that manifest in the students' written production. Study 1 examines the cultural differences between Hungarian and Jordanian students by analyzing their narratives in response to a silent film. This study highlights how cultural factors such as individualism and collectivism influence narrative construction, with a particular focus on family bonds, personal autonomy, and societal expectations. Study 2 investigates the recurring themes and cultural patterns, examining how Hungarian and Jordanian bilinguals interpret and engage with complex interpersonal and social themes. Study 3 quantifies the expression of three key motivational dimensions (achievement, power, and affiliation) and compares how these cultural motivations are reflected in the written narratives of Hungarian and Jordanian participants. Cultural and life

experiences shape dominant motivators, which include achievement, affiliation, and power (McClelland, 1987; Hou et al., 2020). These motivational drivers are not static; they vary in intensity among individuals, shaped by socialization processes and the values passed down through generations (van Emmerik et al., 2010).

The theoretical foundation for this dissertation is grounded in several prominent theories. Cultural linguistics (CL hereafter) and more specifically Cultural Schema Theory (Sharifian, 2011, 2013, 2015, 2017) are applied to examine how culturally ingrained cognitive frameworks shape the way narratives are constructed in response to visual stimuli. Hofstede's Cultural Dimensions (Hofstede, 2001), with a specific focus on individualism vs. collectivism, are used to explore the cultural values that influence how participants interpret social relationships and responsibilities in their narratives. Lastly, Motive Disposition Theory (MDT hereafter; McClelland, 1987, 1989) is employed to account for the motivational tendencies expressed in the narratives, particularly in Study 3.

This chapter opens with an overview of the geographical, linguistic, and educational settings of Hungary and Jordan, highlighting each country's sociocultural heritage, the role of English in schools and society, and the cognitive demands of composing in a non-native language (Section 1.2). It then presents the purpose of the dissertation, situating three integrated studies that explore how cultural schemas and implicit motivational drivers shape EFL narrative production in these two contexts (Section 1.3). The research questions and accompanying hypotheses for each study are detailed next (Section 1.4). Section 1.5 discusses the study's significance for cross-cultural psychology, applied linguistics, and EFL pedagogy. Finally, Section 1.6 outlines the organization of the dissertation, previewing Chapters 2 through 7.

1.2. Geographical and linguistic context of Hungary and Jordan

Hungary and Jordan, though geographically and culturally distinct, share a common emphasis on EFL in their educational systems. This section provides an overview of the geographical, linguistic, and educational landscapes of both countries, focusing on the role of English and its sociocultural significance.

The map (Figure 1.) highlights the geographical positions of Hungary and Jordan, the two countries under investigation, along with their surrounding nations. Hungary, located in Central Europe, is bordered by Slovakia, Ukraine, Romania, Serbia, Croatia, Slovenia, and Austria. Jordan,

situated in the Middle East, shares borders with Syria, Iraq, Saudi Arabia, and Palestine. These geographical surroundings contribute to the distinct cultural and linguistic identities of both countries, shaped by historical interactions and regional influences.

Figure 1. The geographical positions of Hungary and Jordan

Note: Map created by the author using MapChart (https://mapchart.net/europe.html).

Both in Hungary and Jordan, English is taught as a foreign language and holds a prominent place in the education system, although its role varies based on each country's historical and cultural background. In Hungary, the official language is Hungarian, a unique member of the Finno-Ugric language family, unrelated to most languages spoken in Europe. While Hungarian (or Magyar) is the mother tongue of most of the population, there are also 13 recognized minority languages, including Romani, German, Slovak, and Croatian, which are spoken in specific regions of the country. The presence of these minority languages adds linguistic diversity and complexity to Hungary's educational landscape. German and French are also taught as foreign languages, though English remains the most popular for younger people, particularly after the fall of communism and Hungary's integration into the European Union (Eurydice, 2024). English is introduced at an early age in schools and is mandatory throughout secondary education, serving as a key subject in higher education.

Jordan, on the other hand, is located at the heart of the Arab world, where Arabic is the official language and is spoken by the vast majority of the population. Modern Standard Arabic is used in formal settings such as education, media, and government, while Jordanian Arabic (a colloquial form) is spoken in everyday conversations. In addition to Arabic, English plays a significant role in education, business, and diplomacy. English became a significant part of Jordan's linguistic landscape after the country gained independence as the Hashemite Kingdom of Jordan in 1946. During the British Mandate, English was introduced as a key foreign language, especially in education and administration. After independence, the importance of English continued to grow, supported by initiatives such as the establishment of the British Council in Jordan in 1948 (Hinchcliffe & Milton-Edwards, 2001). Today, English is introduced at an early stage in public and private schools and is essential for higher education, with many university-level programs conducted in English. Beyond education, English proficiency is crucial for Jordanians seeking to engage with the global economy, international business, and technology sectors.

Understanding the role of English in both countries is important for contextualizing the present research, which investigates how cultural and educational backgrounds shape narrative construction in EFL contexts, as composing in a non-native language imposes a high cognitive load that intensifies reliance on familiar cultural schemas. In fact, Kormos's (2012) study on L2 writing demonstrates that when learners compose under the cognitive demands of a foreign language, they "rely more heavily on their L1 schema and discourse patterns to free up working-memory resources for formulation". English's dual function as both a global lingua franca and a culture-bound language will be addressed in Chapter 2, Section 2.3, situating our analysis within these intersecting communicative and cultural dynamics.

1.3. Purpose of the study

This dissertation investigates the conceptual representation of instructed Hungarian-English and Jordanian Arabic-English bilinguals with high L2 proficiency levels to see the presumed cross-cultural differences in EFL narrative construction through the analyses of three integrated studies.

Study 1 and Study 2 focus on narrative construction in response to visual stimuli: a silent film in Study 1 and TAT picture cards in Study 2. These studies explore the role of cultural schemas, which are cognitive frameworks shaped by cultural values and social norms (Sharifian, 2003; 2011), in influencing the structure, content, and themes of the narratives. A key area of exploration is the impact of individualism and collectivism on narrative construction (Hofstede, 2001), with

Hungarian students expected to emphasize personal autonomy and individual achievement, and Jordanian students focusing on family bonds, societal obligations, and group-oriented themes (Mesquita, 2001; Triandis, 2001). To analyze the narratives in Studies 1 and 2, Thematic Analysis (Braun & Clarke, 2006; Clarke & Braun 2016) is employed to identify recurring cultural schemas and patterns. This method provides a detailed understanding of how cultural values shape storytelling in a foreign language, offering insights into the differences between individualistic and collectivist societies.

Study 3 uses the same narratives and data from Study 2 but shifts the focus to motivational drivers, applying MDT to examine implicit motives, such as achievement, power, and affiliation (McClelland, 1987; Chasiotis et al., 2014). Using LIWC-22 software (Pennebaker et al., 2015), the narratives are quantitatively assessed to reveal how these motivational drivers are expressed in the students' written production to provide a cross-cultural comparison of how achievement, power, and affiliation manifest in the narratives in a foreign language.

Through these three studies, the work in this dissertation examines how bilingual EFL writers in Hungary and Jordan draw on deeply ingrained cultural schemas and motivational drivers to frame narratives in English, exploring a broader phenomenon of cross-cultural narrative construal under foreign-language conditions. Specifically, it asks: How do cultural values of collectivism and individualism and educational contexts interact to shape the structure, thematic focus, and rhetorical strategies of English narratives across two distinct EFL contexts?

In addition, the study also investigates the extent to which previously identified cultural schemas, drawn from anthropological and cultural-linguistic literature, are reflected in the participants' narratives. This includes examining whether these schemas appear explicitly (e.g., through culturally marked roles, values, or scripts) or whether the narratives exhibit more universal or cross-culturally neutral construals, particularly under the cognitive and linguistic constraints of L2 production.

1.4. Research questions and hypotheses

The research questions are divided into three parts, corresponding to the three studies conducted as part of this research.

Overarching Research Question:

- How do the cultural backgrounds of Hungarian and Jordanian university students shape the thematic content, schematic structure and motivational drivers of the narratives they construct in their shared second language, English, based on visual stimuli?

Study 1: Investigating how cultural schemas in the conceptual representation of bilinguals are expressed in their L2 written production in response to a silent film. The research questions for this study are:

RQ 1: What differences in cognitive, emotional, and social narrative style emerge between Hungarian and Jordanian participants?

RQ 2: Which cultural schema types (e.g. propositional, event, role, emotion) and overarching themes surface in the English narratives of Hungarian and Jordanian participants when they retell a silent-film stimulus?

RQ 3: How do Hungarian and Jordanian bilinguals differ in the activation and construal of cultural schemas, particularly along individualism–collectivism axes in their L2 narratives?

RQ 4: How do participants' cultural schemas manifest in their L2 lexical choices and what does this reveal about bilingual mental lexicon activation?

Study 2: Investigating how cultural schemas in the conceptual representation of bilinguals are expressed in their L2 written production when interpreting ambiguous interpersonal and social themes presented in TAT picture cards?

RQ 1: Which operationalized cultural schemas (Event, Role, Propositional, Emotion) appear uniquely or with divergent frequency in the Hungarian versus Jordanian TAT narratives?

RQ 2: How do their frequencies and emphases differ between the two groups?

RQ 3: How do Hofstede's cultural dimensions, particularly individualism–collectivism and power distance, account for the observed differences in schema activation and narrative focus?

RQ 4: How do L1 socio-cultural schemas interact with English narrative conventions to shape both the content (themes) and form (perspective, figure–ground structuring)?

Study 3: Studying the underlying implicit motivational drivers: achievement, power, and affiliation.

RQ1: How are the implicit motives of affiliation, achievement, and power manifested, both in frequency and thematic content?

RQ2: To what extent do cultural values (individualism–collectivism, power distance) account for the observed cross-group differences in affiliation, achievement, and power motive expression?

RQ3: How do the two groups' narratives differ in perspectivization, cognitive patterns and overall narrative complexity?

Hypotheses

Exploratory qualitative research, in which projective methods like the TAT elicit rich, participant-driven data, emphasizes inductive inquiry and open-ended investigation rather than strict a priori hypothesis testing (Stebbins, 2001). In such designs, central research questions guide data collection, and hypotheses are formulated only after emergent patterns are identified (Maxwell, 2013). Narrative inquiry further underscores the importance of allowing participants' own stories to shape theoretical insights, using research questions as primary analytic tools to capture meaning (Clandinin & Connelly, 2000). Given the exploratory, qualitative nature of Studies 1 and 2, the following general hypotheses focus on predicted cultural patterns rather than confirmatory tests.

Study 1 and 2 hypotheses: Cultural schemas in written narratives in L2 based on visual stimuli

H1: Both Hungarian and Jordanian bilinguals will activate a common set of core schemas in their English narratives, reflecting their shared age cohort and exposure to globalized cultural influences.

H2: Jordanian bilinguals will infuse their English narratives with culture-specific collectivist schemas such (e.g. familial duty, communal solidarity, and relational harmony) drawn from their L1 sociocultural heritage.

H3: Hungarian bilinguals will infuse their English narratives with culture-specific individualist schemas (e.g. personal autonomy, self-directed agency, and independence) drawn from their L1 sociocultural heritage and reflecting L1-driven activation patterns in the L2 mental lexicon.

Study 3: Motivational drivers in written narratives in L2 based on visual stimuli

H1: Jordanian bilinguals will exhibit stronger implicit affiliation motives (both hope-for-closeness and fear-of-rejection orientations) than Hungarian bilinguals, reflecting the collectivist reinforcement of social bonds in Jordanian culture.

H2: Hungarian bilinguals will exhibit stronger implicit achievement motives (both hope-for-success and fear-of-failure orientations) than Jordanian bilinguals, reflecting Hungary's individualistic emphasis on personal performance and autonomy.

H3: Hungarian bilinguals will exhibit stronger implicit power motives (both hope-for-influence and fear-of-weakness orientations) than Jordanian bilinguals, reflecting the valuation of individual agency and assertiveness in Hungarian cultural schemas.

1.5. Significance of the study

While research on language learning has often focused on proficiency and grammatical accuracy, this study addresses a gap by examining how cultural factors shape written narratives in English.

This dissertation contributes to the understanding of the character of shared and culture-specific knowledge stored at the conceptual level of bilingual individuals. The cross-cultural similarities and differences in narrative construction and motivational drivers will be studied within the context of English as an L2. The research aims at providing valuable insights into the intersection of language, culture, and cognition. The focus is on the dynamic interplay between the speakers' L1-influenced construal patterns and the cognitive restructuring that occurs when they are constrained by, and creatively exploit, the conceptualization options afforded by English (Kecskés, 2015; de Groot, 2011).

The choice of English for this study is deliberate, reflecting its complex role as both a global lingua franca and a language imbued with its own cultural-conceptual baggage. While English is often perceived as a common medium for cross-cultural communication, it still provides a unique diagnostic context for investigating how bilingual speakers manage their conceptual systems. The central question is whether the cultural schemas from the speakers' L1s (Hungarian and Arabic)

are transferred into their L2 English narratives, or if engaging with English prompts a different mode of expression (Pavlenko, 2005, 2008). This study reframes the notion of linguistic "flexibility" through the cognitive linguistics concept of construal. As Langacker (1987) posits, any given situation can be "construed" in multiple ways, and language provides the tools for structuring and expressing these alternate conceptualizations. All languages offer this capacity, but for a bilingual speaker, the grammar and lexicon of their L1 and L2 provide different sets of tools for construing reality. For instance, the way one construes an event in terms of its temporal boundaries or the relationship between participants can differ significantly between Hungarian, Arabic, and English. Therefore, this study examines how Hungarian and Jordanian bilinguals use the specific linguistic resources of English to construe and express their cultural identities and values.

By integrating Cultural Schema Theory (Sharifian, 2003; 2011), Hofstede's Cultural Dimensions (Hofstede, 2001), and Motive Disposition Theory (McClelland, 1987), this study advances the field of cross-cultural psychology and language learning. Recognizing the cultural schemas that underlie communication patterns is key to mitigating miscommunication and understanding how they structure thought and influence behavior in social settings, which can significantly advantage or disadvantage speakers in educational and professional settings (Siahaan, 2008; Malcolm & Rochecouste, 2000; Hunzaker & Valentino, 2019).

Finally, this study lays the foundation for future research into cross-cultural narrative construction and motivation. The findings encourage further exploration of how cultural differences influence language learning and narrative expression and open avenues for more extensive research using tools like LIWC-22 to investigate motivational dynamics in diverse linguistic contexts.

1.6. Outline of the dissertation

Following this introductory overview of the research context, general research questions, and hypotheses, Chapter Two provides a comprehensive review of the literature relevant to the study. It begins with an overview of language, culture, and cognition, surveying frameworks such as Cultural Linguistics, the bilingual mental lexicon, Cognitive Linguistics, Hofstede's Cultural Dimensions, and Motive Disposition Theory. The chapter then turns to the specific contexts of English as a Lingua Franca in Hungary and Jordan before introducing the methodological tools,

Thematic Analysis and LIWC-22, used to analyze narrative data. It concludes by reviewing the two types of visual stimuli employed (silent films and Thematic Apperception Test picture cards) and considering how cultural and linguistic factors shape the narratives they elicit.

Chapter Three details the methodological design of the three empirical studies. After describing participant recruitment and the common criteria applied to both Hungarian and Jordanian bilinguals, it outlines the research materials, including the Bilingual Language Profile questionnaire, the silent-film stimulus for Study 1, and the TAT picture cards for Studies 2 and 3. The data-collection procedures, from informed consent and language profiling to narrative elicitation tasks, are then presented step by step. The chapter concludes with a description of the data-analysis protocol: proficiency verification via the BLP and Text Inspector, thematic coding of narratives, LIWC-22 processing, and, in Section 3.6, a detailed integration of theoretical frameworks with analytical methods.

Chapter Five presents the results and discussion of Study 2's scene-by-scene thematic analysis of narratives elicited by four TAT picture cards. After detailing emergent themes across the four images, the chapter's discussion examines how individualism, collectivism, and other cultural-schema dimensions shape narrative content and form in each group.

Chapter Six describes and reports the results and discussion of Study 3, which builds on the TAT data by quantifying implicit motivational patterns using Motive Disposition Theory alongside LIWC-22. General LIWC-22 category results are reported first, followed by an analysis of dominant motives both in combined-card narratives and separately for each picture. The chapter critically evaluates how cultural and psychological variables interact to shape the motivational underpinnings of bilingual storytelling.

Finally, Chapter Seven synthesizes the findings from all three studies, drawing overarching conclusions about the dynamic processes through which cultural context and psychological motivation influence narrative production in EFL settings. It outlines practical pedagogical implications for language educators, acknowledges the study's limitations, and suggests directions for future research aimed at further elucidating the role of culture and motivation in bilingual narrative construction.

CHAPTER TWO

LITERATURE REVIEW

2.1. Chapter overview

This chapter offers a comprehensive foundation for the study by surveying key theoretical and empirical work on the interplay between language, culture, and cognition. It first introduces Cultural Linguistics, with particular emphasis on cultural schemas, as a central organizing framework, the bilingual mental lexicon, Cognitive Linguistics, Hofstede's Cultural Dimensions, and Motive Disposition Theory, establishing the conceptual underpinnings for cross-cultural narrative analysis. It then situates English as a Lingua Franca within the Hungarian and Jordanian EFL contexts before presenting a broad methodological toolkit, including definitions, seminal studies, and comparative literature, that extends beyond the three empirical studies themselves to encompass thematic analysis, corpus-linguistic approaches, psychometric instruments, and narrative theory. Finally, the chapter reviews the visual stimuli (silent films and TAT picture cards) and their cultural and linguistic implications, setting the stage for the empirical investigations.

2.2. Language, culture, and cognition

The interdependence of language, culture, and cognition has been recognized, with each shaping and being shaped by the others in a dynamic process. This relationship influences cognitive styles, developmental pathways, and thinking processes, which, in turn, determine how conceptual structures and meanings are formed (Vygotsky, 1962; Markus & Kitayama, 1991). These conceptual structures are influenced by individual experiences and cultural backgrounds, providing the foundation for meaning-making (Lemmens, 2015; Watson, 2019).

2.2.1. Cultural Linguistics (CL)

The term Cultural Linguistics (CL) refers to an interdisciplinary field that examines the relationship between language and culture. This area of inquiry dates back to influential figures such as Wilhelm von Humboldt (1767–1835), Franz Boas (1858–1942), Edward Sapir (1884–1939), and Benjamin Whorf (1897–1941), who contributed foundational ideas about how culture influences language. While these early scholars laid the groundwork, CL, as it is understood today,

explores the ways in which conceptualizations, which are shaped by culture, are embedded within the features of language.

Building on principles central to cognitive linguistics, namely that meaning arises from the interaction between human perceptual and conceptual faculties, CL offers a more focused exploration of how culture mediates this interaction. While cognitive linguistics often emphasizes universal cognitive processes, CL highlights the role of culture in shaping human experiences and in organizing the interrelationship between language, culture, and cognition (Sharifian, 2015).

A major contribution to this field was made by Gary B. Palmer (1996), who argued in his seminal work that cognitive linguistics could be extended to more thoroughly examine language and culture, areas traditionally studied within linguistic anthropology. Palmer's theory provided the basis for further developments in the field and opened the door for more comprehensive empirical investigations, particularly through the work of Farzad Sharifian.

Sharifian's (2011) model of cultural conceptualizations presents a broad framework for understanding how language and cultural cognition interact. At the heart of this model is the idea that cognition operates at the group level, with cultural cognition emerging from the collective interactions of a speech community over time. Drawing on insights from cognitive anthropology, distributed cognition, and complexity science, this framework seeks to explain how cognition is shared and distributed across individuals within a cultural group.

This view of cultural cognition builds on D'Andrade's (1995) concept of culture as an inter-subjectively shared cognitive system, but it introduces the notion of distributed cognition, as proposed by Hutchins (1995). In this perspective, cultural cognition is not homogeneous but heterogeneously distributed among members of a community, where individual cognition contributes to, but does not fully capture, the collective cultural knowledge. This framework underscores the complex adaptive nature of cultural cognition, where no single individual can grasp the full extent of the cultural cognitive system.

Further extending this understanding, CL examines how cultural conceptualizations – such as cultural schemas, categories, and metaphors - are manifested in language and communication (Sharifian, 2011). As Sharifian (2017) explains, speakers from different cultural backgrounds use language not merely as a communicative tool but also as means of representing and categorizing their cultural experiences. Cultural schemas are fundamental to this process, as they structure

meaning and perception, allowing language to reflect the way in which individuals interpret and engage with the world around them.

2.2.1.1. Theoretical foundations of cultural schemas

Schematization, closely linked to categorization, is "a process that involves the systematic selection of certain aspects of a referent scene to present the whole, disregarding the remaining aspects" (Talmy, 1983: 225). Within this framework, image schemas, dynamic, embodied patterns such as CONTAINER, PATH, or BALANCE, play a crucial role in structuring conceptualizations that bridge perception and abstract thought (Johnson, 1987). Palmer describes these as "schemas of intermediate abstractions [between mental images and abstract propositions] that are readily imagined, perhaps as iconic images, and clearly related to physical (embodied) or social experiences" (Palmer, 1996: 66).

The schema concept has profoundly influenced multiple disciplines. In cognitive psychology, Bartlett (1932) first introduced schemas to explain memory distortion; Rumelhart (1980) later formalized their role in knowledge representation. In artificial intelligence, Minsky (1975) modeled them as frames for commonsense reasoning, while Bobrow and Norman (1975) applied schema theory to human–computer interfaces. Holland and Cole (1995) and D'Andrade (1995) extended schema notions into anthropology, treating them as socially transmitted knowledge patterns that structure collective meanings. Strauss and Quinn (1997) in social psychology charted how schemas underlie both semantic categories and pragmatic norms. Across these fields, a schema functions as a dynamic cognitive framework, shaped by one's ethnicity, religion, family upbringing, education, and societal influences, that organizes perception, guides behavior, and mediates memory and inference (Matsumoto & Willingham, 2009). Far from static, schemas are continuously generated, adapted, and re-implemented as individuals engage with new contexts.

Strandell's (2017) dissertation synthesizes these disparate threads by distinguishing cognitive schemas, individual-level mental frameworks for processing information, from cultural schemas, which he defines as supra-individual, socially shared analogues that exist in the social domain rather than solely in the individual mind. Strandell (2017) also shows that while cognitive schemas arise within persons, cultural schemas emerge through repeated social interaction, reinforcing collective meanings that transcend any single individual's experience. This distinction foregrounds culture as an independent yet interconnected layer atop individual cognition.

2.2.1.2. Cultural schemas in language and communication

Cultural schemas serve as cognitive blueprints that shape how speakers interpret, produce, and negotiate meaning within their cultural contexts. According to Strauss and Quinn (1997: 117), "all native knowledge of language and culture belongs to cultural schemas," making every act of communication an instance of schema deployment. Levinson (1983) further demonstrates that conversational implicatures, gesture interpretation, and pragmatic inference rely on shared script knowledge embedded in these schemas.

A clear illustration is the RESTAURANT SCHEMA, which encompasses ordering, dining, tipping, and payment. Although the overall script exists across cultures, specific sequences, roles, and etiquette differ, for example, tipping is obligatory in some Western contexts but may be absent or offensive elsewhere. Similarly, event schemas such as the BIRTHDAY CELEBRATION SCHEMA vary in rituals, gift-giving norms, and social roles from one culture to another (Sharifian, 2017).

As English has globalized, distinct varieties have emerged that reflect local cultural schemas. Studies of African Englishes (Polzenhagen & Wolf, 2007; Wolf, 2008), Aboriginal English (Malcolm & Sharifian, 2002), and Persian English (Sharifian, 2008) reveal how communal values, honor codes, or ancestral ties inform vocabulary, idioms, and narrative patterns. Individualistic cultures tend to foreground autonomy and personal achievement in discourse, whereas collectivist cultures emphasize social harmony and family ties (Chasiotis et al., 2010).

Beyond descriptive linguistics, awareness of schema mismatches has proven vital in applied domains. In intercultural communication and cross-cultural psychology, schema differences in role expectations or emotion-display rules can lead to misunderstandings (Hong et al., 2000). Language pedagogy that integrates schema-based activities, such as cultural scripts and narrative retelling, enhances learners' cross-cultural competence by making implicit norms explicit (Byram, 2008). Moreover, schema-driven cognition influences not only language use but also perception, memory, and decision-making (Strauss & Quinn, 1997; DiMaggio, 1997), underlining the broad impact of cultural schemas on human behavior.

2.2.1.3. Operational typology of cultural schemas

To operationalize cultural schemas, we first turn to Boutyline and Soter's (2021) framework, which builds on DiMaggio's (1997: 269) succinct functional definition: cultural schemas are "knowledge structures that represent objects or events and provide default assumptions about their

characteristics, relationships, and entailments under conditions of incomplete information." Any such schema must meet three interlocking criteria: it is activated automatically, without conscious effort when relevant cues arise; it possesses representational character, encoding structured information or normative scripts; and it exhibits social sharedness, acquired through social transmission and replicated across a community.

Crocker et al. (1984) clarify how schemas mediate cognition and environment by providing structures for mapping experience, directing information encoding and retrieval, enhancing processing efficiency, filling informational gaps, offering templates for problem solving, facilitating the evaluation of experience, and enabling anticipation, goal setting, planning, and execution.

In an intercultural study, Nishida (2005) identifies eight primary schema types, fact-and-concept, person, self, role, context, procedure, strategy, and emotion schemas, demonstrating the breadth of cognitive structures that shape social interaction across cultures.

Sharifian (2001, 2011, 2017) then refines schema theory by treating cultural schemas as a distinct subclass of cognitive schemas, those "building blocks of cognition that help organize, interpret, and communicate information" (Bartlett, 1932; D'Andrade, 1995; Rumelhart, 1980). He integrates the functional criteria and intercultural types into a five-fold typology that captures the principal ways culture inflects cognition:

I. **Event Schemas:** First articulated as "scripts" by Schank and Abelson (1977), event schemas capture the prototypical sequence of actions, participants, and settings that comprise recurring social episodes, weddings, funerals, communal meals, and the like. Sharifian (2011) draws directly on this script tradition to show how these event-schema structures anchor narrative coherence and culturally shared expectations.

II. **Role Schemas:** D'Andrade's (1995) anthropological work clustered schemas around social positions, parent, teacher, elder, etc., highlighting how communities encode normative expectations of authority, obligation, and hierarchy in collective knowledge. Sharifian (2017) extends D'Andrade's insights into language, demonstrating how role schemas surface in discourse through deference markers and obligation language.

III. **Propositional Schemas:** Sharifian (2011) defines propositional schemas as shared belief statements or evaluative propositions (e.g., "elders must be respected," "hard work yields

moral worth"), showing how recurring moral judgments in narratives reflect these culturally grounded value-statements.

IV. **Emotion Schemas:** Nishida (2005), in an intercultural analysis, included emotion schemas among eight primary schema types, highlighting how cultures pattern the experience and display of affect. Sharifian (2017: 156) analyzes the Arabic concept of ḥayāʾ (modesty/shame) versus Western norms of emotional transparency as illustrative of how emotion schemas shape both inner experience and communicative expression.

V. **Image Schemas:** Johnson's (1987) foundational work on embodied cognition introduced image schemas, dynamic patterns like CONTAINER, PATH, and BALANCE, as prelinguistic structures organizing spatial and metaphorical thought. Sharifian (2011: 70) shows how these basic schemas become culturally inflected, shaping metaphor use and narrative spatialization.

This operational typology provides a rigorous framework for identifying and comparing the culturally specific mental structures that shape human cognition, communication, and social behavior.

2.2.1.4. Comparing Hungary and Jordan: cultural schemas

Although few studies label these patterns explicitly as 'cultural schemas', empirical and ethnographic research reveals schema-like templates in each culture. The following overview highlights different schema dimensions, nature metaphors, family dynamics, public affection norms, independence versus interdependence, and marriage rites that shape the lives of Hungarians and Jordanians.

- **Hungarian schemas**

Hungarian cultural schemas are shaped by a historical narrative of resilience and a modern emphasis on individualism balanced by strong family ties. A foundational layer of these schemas is found in folk traditions, where nature-based metaphors serve as core organizing principles for emotion and identity. For instance, corpus-based analysis of Hungarian folksongs reveals enduring conceptual metaphors like "EMOTION IS RIVER WATER," which frames resilience, and "PLACE OF INTIMACY IS FOREST," linking landscape to personal experience (Baranyiné Kóczy, 2018). These templates provide a shared cognitive backdrop for national and personal identity.

In the social sphere, Hungarian schemas balance a high valuation of independence with an underlying reliance on kin-based solidarity. While over 75% of Hungarians endorse self-reliance over communal dependence (European Values Study, 2017), sociological research confirms that close-tie networks are predominantly composed of relatives who mobilize financial and emotional aid in times of crisis (Angelusz & Tardos, 1991). This creates a dualistic framework where autonomy in education, career, and relationships are framed as a rite of passage (Kovács-Tóth et al., 2023), yet the family remains the ultimate safety net. This balance is also reflected in public affection schemas, where moderate displays like hand-holding are viewed as routine expressions of warmth rather than provocations (European Values Study, 2017).

This emphasis on personal development extends to major life goals, particularly marriage. In Hungary, marriage is positioned as one among several life goals, not a universal obligation. This is evidenced by a high average age at first marriage (31.1 for women, 33.9 for men) and the fact that fewer than 35% of young Hungarians prioritize marrying early (Eurostat, 2020; European Values Study, 2017). Qualitative studies confirm that both men and women often delay marriage to secure higher education and financial stability, linking the marital schema directly to economic autonomy and joint future planning (Hárs, 2018).

- **Jordanian schemas**

Jordanian cultural schemas are deeply rooted in Bedouin traditions, Islamic values, and a collectivist social structure. A cornerstone of social interaction is the hospitality event schema, inherited from Bedouin and Islamic traditions. This highly structured script, often centered on serving coffee, encodes the crucial values of honor, reciprocity, and mutual obligation, providing a foundational template for social life (Sharifian, 2017). This collectivist orientation is mirrored in the family, which is governed by a schema of patriarchal interdependence. Multi-generational households with clear, gendered divisions of labor are the norm, reinforcing a strong collective identity (Al-Hassan and Lansford, 2009).

A powerful schema regulating public behavior is ḥayāʾ (modesty/shame/honor). This principle strongly constrains public displays of affection between genders, which are largely reserved for married couples in private settings (Al-Krenawi & Graham, 2006). Consequently, public displays of affection between young men and women in Jordan are rare, as social norms strongly emphasize modesty and discourage such behavior due to fear of social disapproval (Rough Guides, 2023). This contrasts sharply with Western schemas where affection and commitment are often seen as

public precursors to marriage (Medora et al., 2002). Young adults often defer major life decisions, such as independent living, until after receiving parental approval, which is typically tied to marriage (Al-Hassan & Lansford, 2009).

2.2.2. The bilingual mental lexicon and conceptual representation

Within psycholinguistic and cognitive frameworks, concepts are commonly characterized as the mental structures that underlie our comprehension of specific categories (Barsalou et al., 2003). More precisely, they may be viewed as internal representations that encode the properties of a given class or individual, with a functional role in processes of classification and inference (Smith, 1995). A central question in the study of multilingual cognition concerns the organization of the bilingual lexicon. Linguistic elements, words, morphemes, and associated structures are stored in a cognitive system traditionally identified as the lexicon, wherein semantic, phonological, and syntactic properties are systematically encoded and interrelated (Jackendoff, 2002). The nature of these representations, their accessibility in real-time processing, and the mechanisms underlying cross-linguistic interaction remain open issues within theoretical inquiry. Weinreich (1953) categorized bilingual speakers based on the relationship between their lexicons and semantic systems, proposing three classifications: compound, coordinate, and subordinate bilinguals. Compound bilinguals acquire their languages in the same environment, leading to a shared semantic representation connected to two lexicons. In contrast, coordinate bilinguals, who learn their languages in distinct contexts (e.g., home and school), develop separate semantic representations for each language. Weinreich (1953) adds that subordinate bilinguals, typically less proficient in their additional languages, rely on their dominant language for semantic reference. While research has shown that compound multilinguals are most common, particularly among highly proficient speakers, subordinate relationships are more characteristic of early-stage L2 learners. Proficiency level significantly influences the degree to which the lexicons are connected, with higher proficiency generally resulting in greater overlap across languages (Bai et al., 2011; Higby et al., 2013; Kotz et al., 2008). Age of acquisition also plays a critical role, as earlier exposure to multiple languages often results in stronger integration of the languages in the lexicon and more overlapping neural activation patterns (Ansaldo et al., 2008; Bloch et al., 2009; Wattendorf et al., 2014).

Other studies challenge the notion of entirely distinct lexicons, advocating for models like the shared hypothesis, which suggests integration within a single memory system (Kolers, 1963; Dijkstra & Van Heuven, 2002). Conversely, the separate hypothesis posits independent lexical storage across languages (Obler & Gjerlow, 1999). A middle-ground perspective, the subset hypothesis, suggests partial integration where words are linked to a common conceptual system but retain varying degrees of interconnection across languages (Paradis, 2004; Szubko-Sitarek, 2015).

Empirical challenges to this view emerged, notably through studies such as de Groot and Nas (1991), which demonstrated that while abstract translations might be stored independently, concrete and cognate translations often converge upon shared conceptual nodes. The distributed model, articulated by de Groot (1995), reframes this dichotomy by suggesting that lexical representations exist on a spectrum, with concrete words exhibiting shared storage and abstract words gravitating towards separation. Similarly, the concept-mediation model (Potter et al., 1984) proposes a unified, language-neutral representation for meanings accessed directly by both L1 and L2. Yet, the Revised Hierarchical Model (RHM) (Kroll & Stewart, 1994) nuances this account by emphasizing asymmetry: while L1 exerts a dominant influence on conceptual connections, L2 assumes a subordinate role that strengthens with increasing proficiency.

Appel and Muysken (1987) argue that cultural experience plays a crucial role in shaping multilingual meaning systems, independent of the environment in which a language is acquired. Navracsics (2002) emphasizes that, while culture is important, the method of language acquisition also significantly influences lexical access in bilinguals and how they internalize the world with many observed connections occurring at the semantic level. Pavlenko (2002, 2008) advances the discussion by emphasizing that conceptual representations in bilinguals are dynamic and context-dependent, shaped by linguistic, cultural, and social factors. This perspective challenges static notions of shared representations, highlighting that some categories overlap partially while others remain language-specific. Models like the Distributed Feature Model (DFM) (De Groot, 1992, 1995) underscore this complexity, revealing that concrete and cognate words exhibit greater integration than abstract ones, implying varying degrees of conceptual connectivity.

Crosslinguistic influence (CLI) extends beyond linguistic structures to semantic and conceptual processing. Traditionally considered a unidirectional phenomenon where L1 influenced L2, CLI is now recognized as bidirectional, with L2 also affecting L1 (Jarvis & Pavlenko, 2007).

Errors in bilingual performance often reveal distinct types of transfer: semantic transfer, where words are mislinked to concepts, and conceptual transfer, where L1 categories dominate L2 usage. For instance, Pavlenko (1997) documents Finnish speakers equating 'language' and 'tongue' or Russian speakers categorizing paper cups as 'glasses'. Context also plays a critical role; Sachs & Coley (2006) found that bilinguals' categorization patterns shift depending on task demands and social environments, featuring the emergent and dynamic nature of conceptual representation.

The influence of language on cognition, as articulated in the weaker version of linguistic relativity (Slobin, 1996; Lucy, 1992), provides a framework for understanding how bilinguals navigate between L1 and L2 conceptual systems. While early formulations of the Sapir-Whorf Hypothesis (Whorf, 1956) posited that language determines thought, contemporary research suggests that language shapes cognition by directing attention to specific aspects of experience, a process Slobin (1996) terms thinking-for-speaking. This hypothesis is particularly relevant to bilinguals, who must learn new ways of verbalizing experience in their L2 while retaining L1-based cognitive habits (Athanasopoulos, 2006).

The thinking-for-speaking hypothesis (Slobin, 1996) predicts that L2 learners must acquire new ways of verbalizing experience, but L1 patterns often persist due to their cognitive entrenchment. This is evident in studies of L2 motion events (Cadierno, 2008; Han & Cadierno, 2010), where learners with typologically different L1s (e.g., English vs. Spanish) retain L1-based patterns even at advanced proficiency levels. Similarly, Stam's (2010) longitudinal study of L2 motion gestures found that some aspects of L1 thinking-for-speaking (e.g., manner) were more resistant to change than others (e.g., path). These findings align with Han and Odlin's (2006) assertion that L1 cognitive and linguistic systems may never fully align with L2 systems, a phenomenon observed in the present study's narratives.

Grammatical categories such as aspect and definiteness are particularly resistant to restructuring in L2 acquisition, as they involve abstract conceptualizations that are deeply entrenched in L1 thinking-for-speaking patterns (Slobin, 1996). For example, von Stutterheim and Carroll (2006) found that English-speaking learners of German struggled to adopt the L2's holistic pattern of event construal, while Han (2010) documented persistent L1-based thinking-for-speaking patterns in an L1 Chinese learner's use of English articles and plurals. These findings suggest that even highly proficient L2 learners may rely on L1 conceptual frameworks when constructing narratives, a phenomenon observed in the present study.

Traditional methods for studying the bilingual lexicon, such as reaction-time tasks, have been foundational yet face criticism. Tasks like semantic priming and lexical decision often conflate the strength of interlingual connections with the degree of shared meaning (De Groot, 1992, 1995; Pavlenko, 2008). Alternative methods, including narrative elicitation, naming, sorting, and categorization tasks, have proven more effective in capturing the nuanced structure of bilingual categories. For instance, Ameel et al. (2005) demonstrated that Russian-English bilinguals exhibit crosslinguistic variations in categorizing 'cups' and 'glasses,' reflecting the influence of both L1 and L2 on lexical choices. These approaches emphasize the importance of contextual and task-specific factors in studying bilingual cognition.

While models of the bilingual lexicon explain how words are stored and accessed, a deeper understanding of narrative construction requires a theory of how speakers conceptualize and structure scenes. Cognitive Grammar, particularly Ronald Langacker's (1987, 2008) construal theory, provides such a framework. Langacker argues that meaning is not inherent in words themselves but is constructed through cognitive processes: language does not simply 'represent' reality but provides tools for construing it in specific ways. For a bilingual speaker, the grammatical and lexical systems of their L1 and L2 offer different toolkits for this construal process. This interplay between lexical storage and scene-construal will be further explored in Section 2.5.1, "Linguistic Features of Narratives: A Construal-Based Perspective."

2.2.3. Cognitive linguistics and cultural influence

Cognitive linguistics, emerging from the foundational work of scholars like George Lakoff, Mark Johnson, and Ronald Langacker in the 1980s, posits that language is not an autonomous formal system but is deeply integrated with overall cognition (Lakoff, 1987; Langacker, 1987). Central to this field is the experimentalist view, which argues that meaning is not abstract but is embodied, deriving from our multitude of sensory and motor experiences in constant interaction with our environment (Lakoff & Johnson, 1980). The way our sensory systems transform external stimuli into perceptions is fundamental; it establishes our concepts, ideas, and evaluations. This perspective provides a powerful framework for investigating the interface between language, culture, and thought, asserting that while cognitive processes are universal, their expression is profoundly modulated by the specific languages we speak and the cultural contexts we inhabit (Evans & Levinson, 2009).

A key contribution of cognitive linguistics to understanding cultural influence is the theory of conceptual metaphor. Lakoff and Johnson (1980) demonstrated that abstract concepts are systematically understood in terms of more concrete, embodied experiences. For example, the conceptual metaphor ARGUMENT IS WAR structures how many Western cultures talk about and experience debate, using expressions like "defending a position," "attacking weak points," and "winning an argument." These metaphors are not mere poetic flourishes; they are cognitive schemas that structure thought. As Kövecses (2005) argues, culture influences this process by shaping the experiences that become the source domains for these metaphors. A culture's prevalent activities, values, and environment will determine which experiences are most salient and thus most likely to be used for metaphorical mapping.

This theoretical framework has been substantiated by empirical research demonstrating how different languages lead speakers to construe reality in systematically different ways. For example, in the domain of spatial relations, Talmy (2000) identified a major typological split between "verb-framed" languages (e.g., Spanish, Arabic) and "satellite-framed" languages (e.g., English, Hungarian). Speakers of verb-framed languages tend to encode the *path* of motion in the main verb (e.g., Spanish *subir* 'to go up'), while speakers of satellite-framed languages encode path in a separate element and manner in the verb (e.g., English "to *run* up"). This linguistic difference has been shown to correlate with cognitive differences in how speakers remember and describe motion events, with satellite-framed language speakers paying more attention to the manner of motion (Slobin, 2004). These findings provide concrete evidence for linguistic relativity, showing that language habits direct perceptual attention during the act of narrative construction.

More recently, efforts have been made to bridge the gap between the cognitive and social dimensions of language, integrating cognitive linguistics with linguistic anthropology and sociolinguistics (Yamaguchi et al., 2014; Geeraerts et al., 2010). This work moves beyond abstract cultural values to examine how specific linguistic practices enact and reinforce cultural schemas. For example, research on evidentiality, grammatical markers that specify the source of a speaker's knowledge (e.g., firsthand observation, hearsay), shows how different cultures place different values on evidence and perception within their narratives (Aikhenvald, 2004). By analyzing such linguistic phenomena, from metaphor and event construal to evidentiality, researchers can uncover the subtle but powerful ways in which cultural worldviews are embedded in and propagated through the very structure of language.

2.2.4. Psychological profile of young adults: identity and language in a globalized context

The developmental stage of young adults, often defined as "emerging adults," typically spanning ages 18 to 29, is psychologically distinct, characterized by identity exploration, instability, self-focus, and a feeling of being in-between adolescence and settled adulthood (Arnett, 2000). For this generation, the process of identity formation occurs within a deeply globalized context. Unlike their predecessors, they are constantly exposed to a vast array of cultural narratives, values, and lifestyles through digital media and increased mobility. This exposure facilitates the development of complex identities, with many young adults constructing a "global identity" alongside their local or national one, navigating the tensions and synergies between them (Jensen, 2011).

Emerging adulthood is a peak period for cognitive flexibility and openness to new experiences, which are key personality traits that facilitate adaptation to novel environments and ideas (McCrae & Costa, 1997). This developmental stage enhances their capacity for learning new languages and adapting to different cultural norms. For many young adults worldwide, English proficiency has become a central project, driven by both instrumental and integrative motivations. It is not only a tool for academic and professional advancement but also a gateway to participating in a global youth culture, consuming international media, and forming cross-national social networks (Dörnyei & Ushioda, 2009).

Consequently, English often functions as more than just a second language; when young adults from non-Anglophone backgrounds use English, they are often engaging in a form of "cultural accommodation", adapting their behavior to align with perceived Anglophone cultural norms, such as a more direct or individualistic communication style (Giles & Ogay, 2007). This process of navigating between their native language's embedded schemas and those associated with English is a key aspect of their lived experience in a globalized world.

2.2.5. Hofstede's cultural dimensions

Hofstede's Cultural Dimensions framework provides valuable insights into how cultures differ in their orientation toward power, individualism, and societal values. Developed by Geert Hofstede (2001), this model remains a cornerstone for understanding cross-cultural differences and their impact on communication, behavior, and narrative construction. One of the key tools for measuring

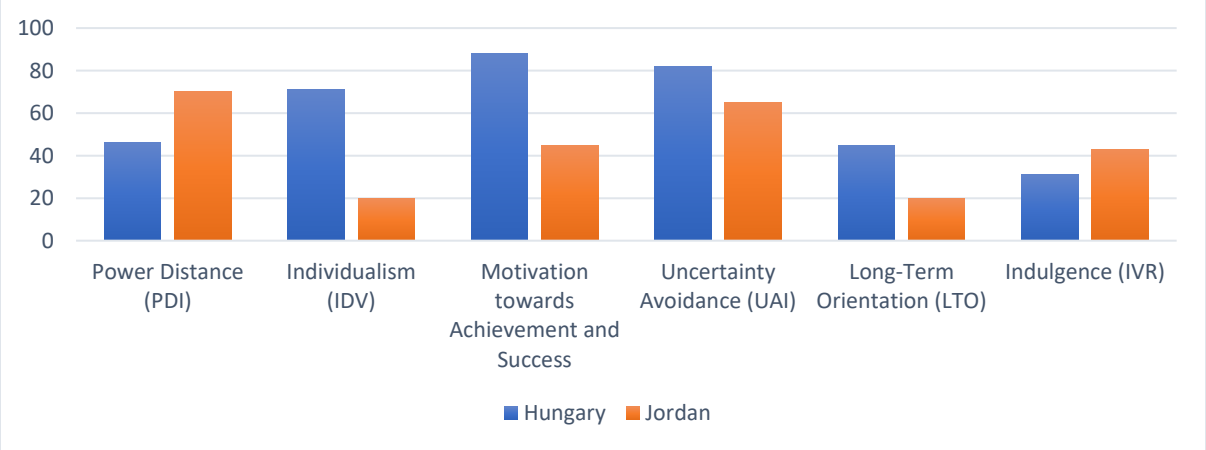
these dimensions is the Values Survey Module **(**VSM; Hofstede & Minkov 2013), a 30-item questionnaire designed to compare culturally influenced values among respondents from different countries or regions. The framework includes six dimensions: Power Distance (PDI), Individualism (IDV), Motivation toward Achievement and Success, Uncertainty Avoidance (UAI), Long-Term Orientation (LTO), and Indulgence (IVR).

The scores for each country on these dimensions are periodically updated on Hofstede Insights' website, based on recent research and data collections. For countries not covered in the original studies, additional scores are generated through supplementary research projects. While Hofstede's work has been instrumental in shaping how culture is studied, it is essential to continually assess and refine these dimensions as cultures and societies change over time (Hofstede, 1991; 1984; Hofstede Insights, 2023).

2.2.5.1. Comparing Hungary and Jordan: Hofstede's dimensions

The comparison of Hungary and Jordan across Hofstede's six cultural dimensions reveals significant differences that shape the way individuals in these cultures interact, communicate, and construct narratives. Figure 2. illustrates how Hungary and Jordan differ on each dimension. These scores are periodically updated when published in scientific journals, while additional country scores are derived from studies or commercial projects conducted by Hofstede Insights' research team and certified practitioners. The most recent update, as of October 16, 2023, included changes to the Individualism (IDV) and Long-Term Orientation (LTO) dimensions (Hofstede Insights, 2023; Minkov & Kaasa 2022).

Figure 2. Comparing Hungary and Jordan: Hofstede's Dimensions



Note: Data from Hofstede Insights (2025). Chart created by the author using Microsoft Excel.

Power distance (PDI): Hungary scores relatively low (46) on power distance, indicating a preference for decentralized power and greater equality within both social and professional hierarchies. In Hungary, employees are expected to participate in decision-making processes, which contributes to a more participative work culture. In contrast, Jordan's higher score (70) reflects a more hierarchical society where centralization is common, and subordinates tend to accept power disparities without challenge. These dynamics influence how narratives are constructed, with Hungarian narratives often focusing on themes of autonomy and personal empowerment, while Jordanian narratives may reflect respect for authority and societal hierarchies.

Individualism (IDV): Hungary ranks high on individualism (71), reflecting the importance of personal achievement, autonomy, and self-expression. In individualistic societies, such as Hungary, individuals are expected to prioritize their own needs and those of their immediate families. In contrast, Jordan scores low on this dimension (20), marking it as a collectivist society where loyalty to the in-group - whether family or extended social networks - is paramount. In Jordan, narrative construction is more likely to reflect group obligations, shared responsibilities, and an emphasis on social harmony.

Motivation towards achievement and success (Formerly known as 'Masculinity vs. Femininity') (MAS): Hungary's high score (88) on this dimension highlights a decisive and achievement-oriented society, where personal success, competition, and assertiveness are central values. This suggests that Hungarian narratives may frequently focus on personal success and individual ambition. In Jordan, where the score is moderately low (45), a more consensus-based approach is valued. Here, work-life balance, collaboration, and compromise take precedence over competition. These differences influence narrative focus, with Jordanian narratives likely to emphasize collaboration and group success.

Uncertainty avoidance (UAI): Hungary's high score (82) on uncertainty avoidance reflects a culture with a strong preference for structure and rules. In such cultures, there is a desire for certainty, and unorthodox behaviors or ideas are often viewed with skepticism. Jordan also scores relatively high (65) on this dimension, indicating that people are more comfortable with rigid belief systems and structured behavior codes. However, Jordan tends to have slightly more tolerance for ambiguity compared to Hungary. These cultural attitudes affect how risk, conflict, and change are portrayed in narratives.

Long-term orientation (LTO): Hungary's score (45) indicates a relatively short-term normative orientation, where there is respect for tradition and an emphasis on achieving quick results rather than long-term planning. In contrast, Jordan's very low score (20) reflects a society focused on establishing the absolute Truth with a similarly short-term perspective, where immediate outcomes take priority over saving for the future or long-term planning. Both countries' narratives may reflect an emphasis on tradition and immediate goals.

Indulgence (IVR): Hungary scores low (31) on this dimension, suggesting a restrained society where self-discipline and cynicism are more pronounced, and gratification of desires is often controlled. Jordan, with a slightly higher score (43), is also considered a restrained society, where cultural norms discourage indulgence, and there is limited emphasis on leisure and pleasure-seeking behaviors. In both cultures, narratives may reflect a tendency toward self-restraint and pragmatism.

2.2.5.2. The role of Hofstede's dimensions in interpreting narrative construction

The comparison between Hungary and Jordan across Hofstede's dimensions provides a framework for understanding how cultural values influence narrative construction in these two countries. As Su-Yuen and Rubin (2000) found, linguistic traits and narrative structures are deeply intertwined with cultural dimensions, especially when considering individualism and collectivism. For instance, Jordanian narratives are more likely to emphasize collective experiences and social harmony, while Hungarian narratives may focus on individual success and personal autonomy.

Additionally, the emotional expression in narratives also varies across these dimensions. As Mesquita (2001) observed, emotions in collectivist societies are often tied to social worth and relationships, which is likely to be reflected in Jordanian narratives. In contrast, Hungarian narratives, influenced by individualism and masculinity, may focus more on personal achievement and emotional independence.

The dynamic and evolving nature of these dimensions, as highlighted by research like Almutairi et al. (2021), underscores the importance of understanding cultural variation when analyzing how people from distinct cultures construct written narratives. The dimensions of individualism, power distance, and uncertainty avoidance are particularly relevant for examining how Hungarians and Jordanians perceive their roles in society, express emotions, and navigate relationships in their stories.

The individualism vs. collectivism dimension plays a significant role in Study 1 and Study 2 of this dissertation, as the narrative constructions of Hungarian and Jordanian bilinguals with L2 English may reflect these cultural values. Hungarian bilinguals, coming from a more individualistic culture, are expected to focus on personal autonomy, self-fulfillment, and individual achievement, while Jordanian bilingual individuals – from a collectivist society – are likely to emphasize family bonds, group responsibilities, and social harmony.

In Study 3, the focus shifts towards motivational drivers, where the dimensions of power distance and motivation towards achievement and success become particularly significant. Hungarian bilinguals, coming from a culture that values competition and assertiveness, are likely to express a strong need for achievement in their narratives, while Jordanians, who prioritize consensus and well-being, may reflect different motivational tendencies, such as affiliation and social harmony.

2.2.6. Motive Disposition Theory (MDT)

MDT, developed by David McClelland in the 1960s, identifies three core motivators that drive human behavior: achievement, affiliation, and power (McClelland, 1965). These motivators are not universal but are shaped by an individual's life experiences and cultural environment. According to MDT, each person has a dominant motivator, which influences their behavior in response to specific incentives. The theory builds on the concept that these core motives are learned through early experiences and are strongly shaped by cultural norms and socialization practices (McClelland et al., 1989).

The theory also provides a framework for understanding individual differences in how people respond to situations. For instance, individuals differ in the types of incentives and situations they find rewarding, which are tied to their dominant motives (Schultheiss et al., 2008). This study adopts MDT as a central framework for exploring how Hungarian and Jordanian bilinguals construct narratives and express motivational drivers, examining how cultural contexts shape the prominence of these motives.

2.2.6.1. Implicit vs. explicit motivational systems

In McClelland's original work (McClelland et al., 1989), the distinction between implicit (unconscious) and explicit (conscious) motives is a foundational concept. Implicit motives predict long-term behavioral trends, while explicit motives are associated with immediate, deliberate

responses. This distinction helps explain why implicit motives are more stable over time and how they predict behavior in task-intrinsic settings (e.g., motivation for achievement in a self-directed task). The explicit motives, on the other hand, are more influenced by social factors and the immediate environment.

Recent years have marked a renewed scholarly focus on implicit motives, nonconscious motivational needs that orient, select, and energize behavior (McClelland, 1987). Researchers have advanced understanding of how implicit needs for power (nPower) and affiliation (nAffiliation) influence diverse psychological processes, including social cognition (Zurbriggen, 2000), conflict dynamics (Langner & Winter, 2001), episodic memory (McAdams, 1982; Woike et al., 2001), nonconscious learning (Schultheiss et al., 2005), and hormonal responses (Schultheiss et al., 2004, 2005). Parallel efforts have contrasted implicit motives with explicit, self-reported goals, revealing their distinct functional roles (Brunstein & Hoyer, 2002; Brunstein et al., 1998). This resurgence has also reignited cross-cultural explorations of motives, addressing a decades-long hiatus (Hofer & Chasiotis, 2003, 2004).

Schultheiss & Köllner (2021), Schultheiss et al. (2008) and Schultheiss & Brunstein (2010) studies build on McClelland's work and explores how implicit motives (measured through projective techniques like TAT) differ from explicit motives (measured through self-report questionnaires). He demonstrates that implicit motives are more closely linked to spontaneous behavior and long-term behavioral trends, whereas explicit motives drive conscious choices and are responsive to social incentives. For instance, someone with a high implicit achievement motive will be driven by a desire for competence across a range of tasks, even if not consciously aware of it.

Stanton et al. (2010) work further emphasizes that implicit and explicit motives often do not correlate with each other. This means that someone may have a high implicit motive for power (as shown through projective measures), but their explicit motive for power may be low, based on their conscious self-report. This distinction is crucial for understanding why implicit motives predict long-term trends in behavior, while explicit motives are better at predicting immediate responses in structured situations.

Research also highlights how cultural contexts afford or constrain experiences during early development, shaping implicit motives such as power, affiliation, and achievement. Keller (2008) discusses how early learning experiences and child-rearing practices across different cultures lead

to variations in motivational structures. For example, child-rearing practices in collectivist societies often emphasize social responsibility and group cohesion, fostering stronger implicit motives related to affiliation.

2.2.6.2. Key characteristics of dominant motivators

The three primary motivators identified by MDT – achievement, affiliation, and power – influence behavior in distinct ways. Each motivator can be pursued with two motivational orientations: hope (approach motivation) and fear (avoidance motivation) (Schüler et al., 2019; Chasiotis et al., 2014).

Achievement: Individuals driven by the achievement motive seek to accomplish challenging goals, take calculated risks, and prefer regular feedback on their progress (McClelland et al., 1989). They are often drawn to tasks that offer clear standards for excellence, such as personal performance comparisons (Schultheiss et al., 2008). Within this motive, individuals may be driven by either a hope for success (e.g., the desire to excel and achieve recognition) or a fear of failure (e.g., the desire to avoid mistakes or underperformance) (Chasiotis et al., 2014). This dual orientation explains why two individuals motivated by achievement might respond differently to the same challenge: some are driven by the excitement of success, while others are motivated by a need to avoid failure.

Affiliation: Those with a strong affiliation motive are primarily motivated by the desire to form meaningful social bonds and to be accepted by others (McClelland, 1987). They prefer collaborative environments and tend to avoid risky situations that could jeopardize social harmony. The hope for closeness (approach motivation) drives them to seek intimacy and positive relationships, while the fear of rejection (avoidance motivation) leads them to avoid social exclusion and conflict (Schultheiss & Brunstein, 2010). In collectivist cultures, affiliation is culturally reinforced, and narratives may reflect a fear of social disapproval or a hope for family acceptance (Hofer et al., 2017).

Power: Individuals with a dominant power motive seek to influence others and thrive in situations where they can assert control and gain recognition (McClelland, 1987). They are often motivated by the desire to hold positions of authority and gain respect from others. This motive can be pursued with a hope for influence (e.g., the desire to lead or shape outcomes) or a fear of weakness (e.g., the desire to avoid appearing powerless or submissive) (Schultheiss & Brunstein,

2010). In the Hungarian culture, where individual agency and assertiveness are valued, narratives may reflect the hope for power through stories of personal success and leadership.

Understanding the hope and fear components within each of these motivators provides a more nuanced view of how individuals from different cultures approach goals, relationships, and challenges. In this study, individualist cultures (e.g. Hungary) may exhibit a hope-oriented approach to achievement and power, while collectivist cultures (e.g. Jordan) may be more influenced by a fear of social failure, particularly in contexts related to affiliation.

Cultural contexts significantly shape how achievement, affiliation, and power are expressed in behavior (Chasiotis et al., 2010). In individualistic cultures, achievement is highly valued, and individuals often prioritize personal success and self-expression. Conversely, in collectivist cultures, affiliation and group cohesion take precedence, with individuals placing a greater emphasis on social responsibility and family ties (Hofer et al., 2017).

By applying MDT to the analysis of narratives in this study, I aim to understand how Hungarian and Jordanian students express their core motivators - achievement, affiliation, and power - through storytelling. Using LIWC-22 software, the study quantitatively assesses the presence of these motivational drivers, providing a detailed cross-cultural comparison of motivational tendencies in narrative construction. To further explore how implicit motives manifest, TAT is employed as a projective tool, allowing the study to capture deeper, unconscious motivators that might not surface in self-reports. This approach enables a more comprehensive understanding of how cultural contexts shape motivational drivers influencing both behavior and narrative structure. The significance of TAT in assessing implicit motives will be further elaborated in section 2.6.2., while the use of LIWC-22 for quantitatively measuring these motivational drivers will be discussed in detail in section 2.4.2.

2.3. English as a Lingua Franca and EFL Context

In In the context of a globalized world, the teaching and learning of EFL have gained significant importance. Globalization is a multidimensional process affecting not only economic and political sectors but also language and culture. Robertson et al. (2018), Holton (2011), and Hopper (2007) argue that globalization may eventually lead to the “de-territorialization” of cultures, where national borders become less relevant and a more uniform global culture emerges. Tomlinson

(1999) extends this idea further, highlighting how this homogenization elevates English as a key tool for bridging cultural divides.

Over the past two decades, scholars have emphasized the necessity of teaching culture alongside language in EFL classrooms (Byram, 1997; McKay, 2003; Jenkins, 2005). Byram (1997) insists that language instruction must encompass both linguistic skills and cultural knowledge, since truly grasping a language's nuances entails understanding the customs, values, and worldviews of its speakers.

English today functions simultaneously in two fundamental ways: as a shared communicative medium or lingua franca, facilitating interaction among speakers of diverse L1 backgrounds (Seidlhofer, 2011), and as a culture-bound language, carrying with it the implicit cultural schemas of native-speaker communities, schemas that can reshape learners' perceptions and identity even as they adopt English for global communication (Kramsch, 1998; McKay, 2003).

This dual role underscores the complex interplay between language, culture, and identity: English learning not only enables cross-border communication but also introduces learners to native-speaker cultural practices (Pennycook, 2006), influencing their social norms and self-construals. As Kramsch (2013) asserts, language is a cultural practice that constructs realities for its speakers, demonstrating that EFL proficiency encompasses both communicative competence and intercultural sensitivity.

The subsequent sections will examine how English functions in Hungary and Jordan, both as an ELF medium in multicultural contexts and as a bearer of native-speaker cultural schemas, by exploring EFL integration in their educational systems and the cultural motivations driving language learning and acquisition.

2.3.1. English in the Hungarian context and narrative characteristics

The role of English in Hungary has transformed since the end of the Cold War, shifting from a peripheral foreign language to a primary tool for international communication. Following the removal of compulsory Russian from the curriculum after 1989, English rapidly gained prominence and is now a cornerstone of the Hungarian education system, often required for entry into higher education (Medgyes & Nikolov, 2014). Hungary's integration into the European Union further amplified this trend, creating a high demand for English proficiency in business, science, and academia (Csizér et al., 2008). While Hungary is officially monolingual, its position at the

crossroads of Europe has fostered a multilingual reality where students begin learning foreign languages early, with many choosing English as their first foreign language (Movchan, 2012).

The interplay between Hungarian culture and the English language is a critical area of study, revealing how native linguistic and cultural habits influence second language use. Research into this interface has identified specific rhetorical and narrative construction strategies that are characteristic of Hungarian speakers when they communicate in English. A key study by Godó (2008) on the argumentative writing of Hungarian college students revealed a preference for a more delayed thesis presentation and rhetorical strategies that emphasized communal knowledge and shared context. Subsequent research has noted a preference for structural complexity and syntactic subordination, reflecting patterns from the Hungarian language, which can result in narratives that are less linear and more digressive than typical English prose (Heltai, 2005).

In terms of perception, English in Hungary is viewed through a dual lens. Its status is primarily instrumental, seen as an essential skill for economic and academic mobility within the European and global landscape. However, due to Hungary's position within the EU and its relative cultural proximity to Western Europe, there is also a significant integrative motivation. For many young Hungarians, English is a tool to participate in a broader European youth culture and connect with international peers (Dörnyei & Csizér, 2002). This dual motivation suggests that English is perceived not just as a foreign language, but as a transnational language of European identity, which can be adopted without posing a significant threat to the core Hungarian linguistic identity.

2.3.2. English in the Jordanian context and narrative characteristics

In In the Hashemite Kingdom of Jordan, Arabic is the official language and the bedrock of national and religious identity. However, English functions as the country's primary foreign language, holding significant prestige and utility in higher education, business, and technology (Dweik, 1986). English is taught widely and serves as the medium of instruction for many university faculties. Consequently, proficiency in English is often viewed as a crucial gateway to professional opportunities and global communication (Al-Khatib, 2000).

The structural and cultural differences between Arabic and English present specific challenges for Jordanian learners, particularly in academic writing. Research has identified characteristic narrative strategies that Jordanian learners often transfer into their English writing, including a preference for a "paratactic" or "coordinative" rhetorical style marked by repetition and parallelism (Rababah, 2003). In argumentation, writers may build their case through elaborate descriptions

before a main point emerges, rather than stating a thesis upfront, reflecting a cultural communication style that values establishing context (Al-Jarrah & Al-Ahmad, 2018).

Regarding perception, English in Jordan is viewed almost exclusively through an instrumental lens. It is valued as a pragmatic tool for accessing global science, technology, and economic opportunities (Zughoul, 2003). Unlike in the Hungarian context, integrative motivation, the desire to assimilate into an Anglophone culture, is notably low. This is because English is perceived as the language of an external, culturally distant "other." Its adoption is a necessity, but it is carefully compartmentalized to prevent it from encroaching on the core cultural and religious identity vested in the Arabic language (Tahaineh & Daana, 2017). Therefore, English is perceived primarily as a utilitarian foreign language, and its use is balanced by a strong, conscious effort to preserve and prioritize Arabic as the authentic language of identity.

2.4. Methodological tools used in narrative analysis

Narrative research has traditionally relied on qualitative methodologies to examine how individuals construct and communicate their lived experiences through storytelling (Czarniawska, 2004). Rooted in a deep engagement with participants, narrative inquiry allows researchers to co-construct narratives that not only reflect past experiences but also provide insight into how individuals navigate their present and imagine their future (Clandinin & Rosiek, 2019). This process of constructing narratives involves methods such as interviews, observations, and the use of artifacts (Clandinin & Connelly, 2000), giving rise to complex accounts of identity and cultural belonging. However, with the advancement of computational technologies, narrative analysis has expanded to include quantitative approaches, offering new dimensions for analyzing text on a larger scale (Roberts, 2000).

The integration of computerized text analysis has opened up opportunities for researchers to systematically capture patterns within large datasets, analyzing not just the content but the linguistic and cognitive markers that underpin narratives (Davidson, 2023). Tools like LIWC-22 have emerged as key players in this computational turn, enabling the quantification of psychological dimensions within narratives by analyzing word frequency and categorizing words based on their emotional and cognitive attributes (Tausczik & Pennebaker, 2010). This combination of qualitative narrative inquiry with quantitative text analysis bridges the divide between traditional narrative studies and modern digital methodologies.

The dual approach in this dissertation facilitates a comprehensive examination of how Hungarian and Jordanian bilinguals construct their narratives, enabling both a thematic exploration of their experiences and a quantitative assessment of the motivational drivers and cultural frameworks reflected in their storytelling. While Thematic Analysis is utilized to identify recurring themes that point to cultural schemas and social values, LIWC-22 serves as a powerful tool to quantitatively measure the linguistic patterns, and emotional tones present in the narratives. By employing both methods, the study captures not only the depth of personal experience but also the subtle psychological markers embedded within the language, allowing for a nuanced cross-cultural comparison of narrative construction.

2.4.1. Qualitative methods: Thematic Analysis (TA)

Thematic Analysis (TA) is a widely used qualitative method for identifying, analyzing, and reporting patterns within data. Its historical background extends back to the early 20th century, possibly earlier, with various applications in the scientific and social sciences. Gerald Holton's (1975) work on 'themata' in scientific thought has been linked to the foundations of TA. Early efforts to identify themes in data can also be traced to qualitative and quantitative applications of content analysis (Baxter, 1991; Christ, 1970), suggesting the broad adaptability of this method. Despite its long history, the formalization of TA as a qualitative technique emerged in the 1990s, with Aronson (1994) introducing structured methods for identifying themes. However, it was the seminal work of Braun and Clarke (2006) that established TA as a reliable and widely accepted qualitative analysis approach, contributing significantly to its recognition and integration into diverse research contexts. Alongside Braun and Clarke, Boyatzis (1998) and subsequent contributions from Clarke et al. (2015) and Braun et al. (2015) have shaped the contemporary understanding and application of TA.

In contrast to Narrative Analysis, which retains the structure and integrity of individual stories, Thematic Analysis focuses on aggregating data across narratives, emphasizing the occurrence of recurring themes rather than individual storytelling techniques (Freydell et al., 2022). This approach is especially useful for cross-cultural studies, as it allows for the identification of broad patterns that transcend individual differences and provide insight into shared cultural experiences.

TA provides a versatile framework for uncovering recurring themes in narrative data, making it particularly suited for cross-cultural studies. Unlike narrative analysis, which emphasizes the structure and meaning of individual stories, TA focuses on identifying broader patterns across

datasets (Weil, 2022; Freydell et al., 2022). Its flexibility enables researchers to apply TA across diverse theoretical frameworks without being confined to any specific philosophical stance (Braun & Clarke, 2013). This adaptability allows TA to explore cultural schemas and psychological dimensions, as in the present dissertation, where it examines how cultural values influence narrative construction among bilingual participants.

TA process typically involves six key phases: familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing a final report (Braun & Clarke, 2006). These steps provide a systematic process for coding and interpreting data, ensuring a structured yet flexible approach to uncovering insights.

A distinctive feature of TA lies in its emphasis on subjective and interpretative coding. Braun and Clarke (2013) stress that coding in TA is not a rigid process but an evolving practice where themes emerge organically rather than being predefined. Effective coding involves repeated interactions with the data, enabling the researcher to engage deeply with the material. This subjective approach contrasts with more structured coding models by allowing the researcher's theoretical perspectives, disciplinary knowledge, and personal viewpoints to inform theme development. This flexibility enriches the analysis, fostering a deeper exploration of the data and creative emergence of themes.

Reliability is a crucial consideration in TA, especially when multiple coders are involved. Intercoder reliability (ICR), often interchangeably referred to as interrater reliability (IRR), is a critical step for ensuring the robustness of themes and categories identified in the data. ICR quantifies the level of agreement between coders using measures such as Cohen's kappa (Cohen 1960), Krippendorff's alpha, and others. These statistical tests offer significant advantages over simple percentage agreement by accounting for the probability of chance agreement (Banerjee et al., 1999; Hayes & Krippendorff, 2007). For example, Cohen's kappa ensures greater transparency and coherence in the coding framework by correcting for chance agreement. These measures are particularly suited for nominal-level data, such as identifying the presence or absence of specific sentiments or themes, and their application allows for collaborative refinement of coding decisions, reducing idiosyncratic interpretations (Joffe & Yardley, 2004; O'Connor & Joffe, 2020).

TA's integration with quantitative tools, such as LIWC-22 in this study, further demonstrates its flexibility. By combining qualitative insights with quantitative metrics like lexical diversity, emotional tone, and narrative style, TA allows for a holistic analysis that bridges content-driven

themes with data-driven patterns. This comprehensive approach enriches the understanding of how cultural schemas and motivational drivers influence narrative construction, particularly in the context of bilingual and cross-cultural settings.

This dissertation leverages TA's strengths to uncover shared and culturally specific patterns in bilingual narratives, shedding light on how participants from distinct cultural backgrounds interpret the same stimuli. The method's adaptability, reliability, and emphasis on subjective engagement make it a powerful tool for investigating the complex interplay between language, culture, and cognition in narrative construction.

2.4.2. Quantitative methods: Linguistic Inquiry and Word Count (LIWC-22)

2.4.2.1. The use of corpus linguistics in cognitive research

Corpus linguistics plays a vital role in understanding cognitive processes, particularly through the analysis of large text samples. As Barlow (2022) notes, corpora are generally large collections of spoken or written text from specific genres, and they allow researchers to detect subtle patterns within language that may not be noticeable when examining individual texts. Advanced search software or scripts, such as concordances or Python programs, are commonly used to analyze such data.

Barlow (2022) explains that corpora shift the focus from a syntagmatic (linear) dimension of text to a paradigmatic one, revealing deeper patterns across multiple texts. These patterns often emerge when the corpus is large enough, allowing for the frequency analysis of various linguistic elements. This analytical approach aligns with the principles of tools like LIWC-22, which applies a quantitative framework to examine psychological, emotional, and social processes embedded in language.

2.4.2.2. The development and psychometric properties of LIWC-22

The Linguistic Inquiry and Word Count (LIWC) tool has evolved significantly since its initial creation as part of an exploratory study of language and disclosure. Developed by Pennebaker and colleagues, LIWC is a widely recognized text analysis tool designed to study the relationships between language and psychological, emotional, and social behaviors (Pennebaker et al., 2001). The original LIWC was created to provide a more structured method for studying verbal and written speech samples. Over the years, multiple revisions have led to advancements in both the

dictionary and software capabilities, resulting in versions such as LIWC2001, LIWC2007, LIWC2015, and most recently, LIWC-22. Each iteration has introduced expanded dictionaries and improved software designs to accommodate the growing complexity of text analysis (Boyd et al., 2022). The standard LIWC dictionary is highly reliable, with words categorized by consensus among multiple judges. Additionally, LIWC has remained accessible to non-programmers, making it a popular tool in psychological research for examining the role of language in reflecting social dynamics (Pennebaker et al., 2015). Notably, function words such as pronouns and articles have been found to reveal important insights into individuals' psychological states and social behaviors.

Various LIWC-22 categories shed light on the distinctive aspects of language use. LIWC-22's sophisticated capabilities and its broad range of categories offer immense potential for enhancing the analysis of language in cinematic narratives, allowing researchers to study the psychological characteristics of writers and further our understanding of their linguistic expressions (Boyd and Pennebaker, 2017). LIWC-22 provides data on word count, word frequency, language Style Matching (LSM), generated word clouds, and compares the linguistic and psychological characteristics of narratives based on algorithms that have been informed by prior empirical research (cf. Pennebaker et al. (2015); Jordan et al. (2019); Kacewicz et al. (2014) and Kalichman and Smyth (2021).

LIWC-22 dictionary includes over 12,000 words, word stems, phrases, and emoticons, categorized into multiple psychological constructs such as emotions, cognitive processes, and social dynamics. A key innovation in LIWC-22 is the integration of the Test Kitchen Corpus, a dataset containing over 31 million words used to validate the software's dictionary. This innovation ensures that the tool reflects contemporary language use, including social media and informal text formats, allowing for flexibility in text analysis across various contexts (Boyd et al., 2022).

LIWC-22 further enhances the tool's functionality by improving psychometric reliability and validity, with enhanced sub-dictionaries for better internal consistency. The tool can analyze word frequencies, support topic modeling, and even assess narrative arcs, making it an indispensable resource for both computational text analysis and psychological research (Boyd et al., 2022).

LIWC-22 has been applied in various fields, including deception detection, authorship attribution, suicide prevention, fraud detection, and the exploration of social relationships. Researchers have also employed LIWC-22 in psychological studies to uncover the emotional and

cognitive aspects of language use. The software's robust analytical capabilities make it valuable for examining both individual linguistic patterns and broader language trends in large datasets.

In academic research, LIWC-22 is particularly useful for its easy-to-use interface and solid documentation. While it does not internally save analyzed data, it provides outputs that can be exported to external platforms such as Excel for further visualization and in-depth analysis (Hai-Jew, 2016).

2.4.2.3. Narrative analysis with LIWC-22

One of the key features of LIWC-22 is its ability to conduct narrative analysis by splitting texts into segments and analyzing them across three dimensions: staging,' plot progression,' and 'cognitive tension.' These dimensions reflect typical narrative structures, where staging is highest at the beginning (setting up context and characters), plot progression builds as actions unfold, and cognitive tension rises towards the narrative's climax before leveling off (Pennebaker et al., 2022).

This feature of LIWC-22 has been used to study several types of texts, from television transcripts to social media posts, and can reveal subtle patterns in narrative structures that might not be immediately apparent through casual reading. LIWC-22's ability to measure narrative arc progression makes it a valuable tool for analyzing the emotional and cognitive journey in storytelling (Pennebaker et al., 2022).

For the purposes of this dissertation, LIWC-22 was chosen as a quantitative tool to analyze the written narratives produced by Hungarian and Jordanian bilingual university students. Using the Meaning Extraction Method (MEM) provided by LIWC-22, this study examines the underlying psychological and thematic constructs in the students' writing. The traditional LIWC program focuses on the analysis of function words (e.g., pronouns, prepositions) and emotion words to capture key social and psychological dimensions of language. However, the MEM goes beyond linguistic styles to reveal the content and dominant themes in the text. This method allows for topic modeling, applying factor analysis techniques like singular value decomposition (SVD) to identify recurring themes and extract deeper meaning from the data (Chung & Pennebaker, 2008).

Given its ability to quantify both linguistic patterns and psychological constructs, LIWC-22 allows for a cross-cultural comparison of motivational drivers such as achievement, power, and affiliation. This approach aligns with the overarching goal of this research: to understand how cultural contexts shape narrative construction and psychological motivations within the framework of EFL learning.

By leveraging the psychometric capabilities of LIWC-22, this study provides valuable insights into the cognitive and emotional dimensions of narrative expression, offering a nuanced understanding of cross-cultural differences in language use.

2.5. Written narratives and culture

The past two decades have seen a significant rise in narrative research across multiple disciplines, including anthropology, psychology, education, language studies, linguistics, and communication studies. Notably, narrative inquiry often adopts an interdisciplinary approach (Gabryś-Barker, 2013). As a research tool, narratives provide individualized understandings, making them particularly suitable for investigating multilingual phenomena. The autobiographical method (Denzin & Lincoln, 2000), which encompasses various forms of narratives such as diaries, biographies, letters, and memoirs, enables researchers to delve deeply into subjective feelings, evaluations, and experiences. These subjective elements are critical, as they serve as the driving motives behind human activity. Equally important is the context in which individuals live and function, as it shapes their interpretations and methods of expression. Narrative data, both diachronic (past experiences) and contemporary, hold significant value for researchers. Narratives emphasize the meanings people ascribe to their experiences and investigate how they interpret the social world and their role within it (Trahar, 2011). Consequently, multilinguals' reflections on their learning experiences contribute to a deeper understanding of their multilinguality.

While traditional methodologies like questionnaires maintain their prominence (e.g., Dewaele, 2008; Dewaele & Pavlenko, 2002–2003), there is an emergent and significant turn toward the utilization of narrative texts, including autobiographical accounts and diaries (e.g., Gabryś-Barker, 2005, 2013; Pavlenko, 2005). These forms of open-ended data transcend the constraints of predetermined categories, enabling a qualitatively driven, exploratory approach to inquiry. Crucially, they afford an avenue for probing the intricate interplay between context and interpretative frameworks, revealing how the subject's linguistic and cognitive expressions are inextricably shaped by situational variables. As such, these narratives constitute an indispensable resource for unraveling the nuanced, dynamic phenomena that lie at the core of human linguistic behavior.

The construction of written narratives within an EFL context provides a rich platform for exploring how culture shapes language use, expression, and communication. Narrative theory,

which originally developed from the study of literary works, has evolved across various scholarly traditions, including French Structuralism, Russian Formalism, post-structuralism, and cultural analysis (Riessman, 2008). The use of narratives in research has a long-standing history in the social sciences, offering a complex methodology for examining how individuals make sense of their experiences (Riessman, 2008).

In contrast, individualistic cultures emphasize emotions related to personal autonomy and achievement, reflecting broader values of self-reliance and individual success (Shkedi, 2005). These cultural differences are visible in the narratives of Hungarian and Jordanian bilinguals, where emotional tones often reflect the underlying cultural values.

Writing, as a narrative act, offers insight into the deeper cultural influences that shape linguistic expression. Zamel (1992) highlights that writing enables individuals to represent their learning, make meaning, and reflect on their understanding of language. Similarly, Kramsch (2014) argues that written texts encapsulate worldviews, cultural values, and communication modes, making them essential for studying the relationship between language and culture. In EFL settings, students from diverse cultural backgrounds engage in writing tasks that reflect their unique cultural conventions and personal experiences, shedding light on how cultural schemas influence narrative construction (Cortazzi & Jin, 1996).

Bruner (2002: 16) posits that the ability to organize and communicate experiences in narrative form is essential to human existence, describing narratives as the "coin and currency of culture." These narratives are deeply embedded within cultural frameworks, shaping how individuals and groups understand and share their experiences. Narratives are not merely individual reflections but are influenced by collective cultural values, providing a lens through which people perceive and interpret the world. Shkedi (2005) describes narrative as a mode of knowledge that accommodates the ambiguity inherent in life's events. The structure of a narrative, or its plot, provides a framework through which individuals make sense of events and choices, reflecting the cultural values they have internalized.

Furthermore, narratives offer a structured means of understanding life experiences. Clandinin & Connelly (2000) note that individuals often think narratively, using stories to provide structure and meaning to their experiences. This narrative framework helps individuals make sense of their past while serving as a tool for navigating future choices. Narratives, therefore, are not objective representations of reality; they are shaped by memory, language, and cultural context, creating

what Shkedi (2005) calls ‘narrative truth’ - a subjective truth shaped by the time, place, and cultural conditions in which the story is told.

The content of written narratives is profoundly shaped by culture where maintaining social harmony is a primary concern. Conversely, narratives from individualistic cultures tend to focus on personal challenges and the pursuit of individual goals. These differences in narrative themes reflect the broader cultural values that individuals internalize and express through writing.

In EFL writing, learners' cultural and linguistic backgrounds strongly influence their content, structure, and style choices. Research has shown that EFL learners often transfer cultural and rhetorical conventions from their first language into their English writing. This is not a matter of error but a systematic application of familiar communicative strategies. For instance, Canagarajah (2006) observed that multilingual writers often employ rhetorical strategies in their English texts that reflect their L1 conventions, such as using different patterns of argumentation structure (e.g., circular or spiral reasoning rather than linear) and delayed thesis placement, where the main point is revealed at the end of a text rather than the beginning. These influences are also evident in the specific use of discourse markers that may not align with Anglophone academic norms.

This process of rhetorical transfer is not unidirectional. More recent research highlights a bidirectional influence between a writer's L1 and L2. For example, İnceçay (2015), in a study of Turkish students writing in both Turkish and English, found that learners' rhetorical practices were mutually influential. The students employed different thesis placement strategies and discourse markers depending on the language they were using, demonstrating a dynamic negotiation between L1 and L2 conventions rather than a simple carry-over from their native language. Examining writing in an EFL context, therefore, provides a valuable opportunity to investigate this complex interplay and understand how cultural factors shape linguistic expression.

Horváth (2000) adds that writing is a complex process involving idea development, knowledge translation, and narrative construction, all influenced by cultural and linguistic background. Leki (2006) and Pennycook (1994) argue that writing reflects not only linguistic proficiency but also the cultural frameworks shaping how ideas are structured and communicated. Analyzing written narratives from EFL learners thus allows for exploration of the intersection between language, culture, and cognition, revealing how these factors manifest in students' written expression.

This dissertation partially aims to uncover how cultural values shape narrative construction in their L2. Using TA, the study will identify recurring themes that reflect the cultural schemas of

these two distinct groups, offering insights into the interplay between culture, language, and cognition in EFL contexts.

2.5.1. Linguistic features of narratives: A construal-based perspective

The way a story is told, the specific grammatical and lexical choices a narrator makes, is as meaningful as the story's plot. From the perspective of cognitive linguistics, particularly Langacker's (1987, 2008) Construal Theory, a narrative is a sequence of structured conceptualizations. Understanding the linguistic features of narratives as a text type provides a deeper insight into how storytellers build worlds and guide their audience's interpretation. Several of these features are particularly relevant.

A primary characteristic of narrative is the establishment of perspective. Every story is told from a particular viewpoint, which is linguistically encoded through pronouns (e.g., first-person vs. third-person), tense, and other deictic markers that anchor the reader in a specific time and place relative to the events (Dancygier, 2011). Closely related is the concept of figure-ground alignment, where narrators make choices about what to place in the attentional foreground. The grammatical subject of a sentence, for instance, is typically construed as the "figure," the main point of focus, while other elements form the "ground" (Talmy, 2000). These choices about perspective and focus are not random; they reflect underlying decisions about what is most important in the story.

Furthermore, narratives are shaped by phenomena of attention and subjectivity. A narrator constantly directs the audience's attention by choosing which aspects of a scene to describe explicitly (to "profile") and which to leave in the background (Langacker, 2008). The level of subjectivity also varies from a seemingly objective, detached reporting of events to a highly subjective account infused with the narrator's own feelings, judgments, and attitudes, often revealed through modal verbs ("he *must have felt*...") and evaluative adjectives ("it was a *terrible* day") (Langacker, 1990). Together, these linguistic features demonstrate that a narrative is not a simple mirror of events but a carefully construed version of reality, shaped at every turn by the narrator's cognitive and linguistic choices.

2.6. Visual stimuli for eliciting narratives

In cognitive linguistics, the theoretical construct of image schemas plays a crucial role in how individuals conceptualize experiences. These schemas arise from basic embodied domains such as containers, paths, links, forces, and balance, which recur in various experiences and structure not only our bodily experiences but also non-bodily ones, through metaphor (Lakoff, 1987; Johnson, 1987; Talmy, 1972, 1977, 1983). These domains are universal across sensory modalities, adding depth to the conceptualization of experiences. Image schemas are defined as schematic versions of images, which are representations of specific, embodied experiences (Fillmore, 1975).

Palmer (1996) further expands on this by suggesting that language itself is based on culturally constructed imagery, positioning imagery as central to understanding language and cognition. Palmer emphasizes that imagery governs various linguistic aspects, including narrative, figurative language, semantics, and even grammar and discourse. Importantly, Palmer's notion of imagery is not limited to visual representations but encompasses all sensory modalities: visual, auditory, tactile, and even taste and smell. He describes imagery as both what we see in our mind's eye and what we experience through other senses, such as the taste of mango or the feel of walking in a tropical downpour (Palmer, 1996). Thus, cognitive linguistics fills the gap by integrating how language and imagery, both visual and non-visual, are culturally constructed and conceptualized.

2.6.1. Silent films

The term 'Silent Film' refers to the early period of cinema, spanning from the late 1800s to the early 1930s, when films were released without synchronized sound. This era gave birth to a visual language and style of presentation that continues to define the basic grammar of cinema today. Silent films required viewers to actively engage with visual storytelling, interpreting plot and character emotions through gestures and visual cues (van Roessel, 2024). Although labeled 'silent', these films often featured live musical accompaniment in theaters, and the intertitles, which could be easily translated into any language, made them akin to a universal language.

Silent films are recognized as a valuable tool for language learning and narrative research. Their absence of spoken dialogue encourages viewers to interpret the plot, characters, and emotions through purely visual means. This process engages both the imagination and cultural schemas of the viewer. According to dual-coding theory (Paivio, 1990), information is stored both verbally and visually, making silent films particularly effective in engaging both cognitive systems.

By activating these pathways, silent films can facilitate language learning and narrative construction.

In the context of language learning, silent films stimulate creativity and help learners improve their language proficiency by encouraging them to focus on nonverbal cues, body language, and imagery (Kramsch, 2014). The lack of spoken dialogue allows learners to concentrate on visual storytelling, a skill transferrable to written narratives. For instance, Sabri and Adiprabowo (2022) found that the exaggerated imagery used in animated films effectively conveyed ideas, particularly in EFL settings. Similarly, Putri and Andanty (2023) demonstrated that Indonesian EFL students considered silent-animated films valuable resources for enhancing their narrative composition. These films fostered engagement, creativity, and more effective storytelling. Additionally, Kartika et al. (2017) found that silent short films helped vocational high school students improve their writing skills, particularly in organization, coherence, and creativity.

Research also emphasizes the emotional potency of visual stimuli like silent films in eliciting authentic emotional reactions. Wieck et al. (2022) suggest that empathy tasks should encompass a balance of both positive and negative emotion-evoking stimuli, as people are more likely to share and perceive others' emotions when embedded in positive narrations (Richter & Kunzmann, 2010). The ability of silent films to convey a broad emotional spectrum makes them ideal tools for studying empathy and emotional responses in both narrative and educational contexts.

The visual storytelling techniques employed in silent films are also highlighted in research on narrative structure. Chaplin's *The Kid* (1921) exemplifies how silent films rely on visual storytelling techniques, such as framing, editing, mise-en-scène, and physical comedy, to convey complex narratives and evoke deep emotional responses without spoken dialogue. As Chaplin (1964: 377) famously stated, "It is not reality that matters in a film but what the imagination can make of it," highlighting the power of cinematic imagination to transform simple visuals into rich, meaningful stories. Wang (2024) study, for example, examines how Charlie Chaplin's The Kid reveals how silent films can effectively use visual motifs and repeated actions to create narrative cohesion, character development, and emotional depth, making them rich resources for understanding visual narrative strategies.

Silent films offer important lessons in narrative economy. Smith (2019) observes that silent films demonstrate the importance of 'doing more with less,' where every gesture, scene, and frame carries meaning. Subtext and gesture are crucial to the storytelling method of silent films, as they

avoid the overuse of inter-title dialogue cards, relying instead on body movement and visual subtext to convey unspoken conflicts and emotions. According to Smith (2019), this visual stillness allows audiences to connect more deeply with the emotional landscape of the characters.

In language acquisition, silent films are particularly effective for reducing anxiety. Pally (2000) notes that silent films divert learners' attention away from the aspects of language acquisition that typically induce anxiety, offering an engaging narrative free of spoken dialogue. This 'low-pressure' environment encourages students to immerse themselves in the story without fear of making verbal mistakes, fostering a safe space for narrative development and linguistic competence.

Moreover, research in psychology supports the idea that visual processing is foundational to language development. Piaget and Inhelder (1971) and Paivio (1979) have demonstrated that the human mind stores and manipulates linguistic information through visual imagery. Silent films, with their vivid and interactive content, provide an ideal stimulus for engaging learners' imaginations and aiding in vocabulary acquisition and narrative construction (Kasper & Singer, 2001). Beyond language development, silent films also serve as valuable interdisciplinary tools. These films provide a context-rich visual narrative, offering students the opportunity to engage with broader societal issues while honing their language skills (Kasper & Singer, 2001).

Ultimately, silent films serve as powerful tools for developing linguistic competence through visual narratives. Relying on gestures, actions, and occasional intertitles to convey meaning, silent films are accessible even to learners with limited language proficiency. By focusing on non-verbal cues, silent films enable learners to grasp complex emotions, plotlines, and social interactions without the need for fluent spoken language (Kasper & Singer, 2001).

2.6.2. Thematic Apperception Test (TAT)

TAT was first developed by Henry Murray and Christiana Morgan in the 1930s as a projective psychological test designed to assess an individual's underlying motivations, desires, and concerns. The test involves presenting participants with a series of semi-ambiguous images and asking them to construct stories based on the images (Morgan & Murray, 1935). This open-ended nature of the TAT allows for a wide range of interpretations, making it an ideal tool for exploring the implicit motives and cultural schemas that influence narrative construction (McClelland, 1987). The data gathered from TAT is expected to reveal the hierarchy of a person's needs and the dominant emotions or conflicts within their narrative.

TAT is a set of picture cards showing different scenes and situations, like people talking, or someone feeling sad. TAT cards have evolved to become essential tools in understanding emotional and psychological drivers. The test comprises 31 picture cards, most of which describe one or more people in various contexts. These ambiguous images allow for a broad range of narrative possibilities, making TAT a flexible tool in both research and clinical settings (Krishnamurthy & Meyer, 2016).

TAT serves as a psychological tool for uncovering hidden aspects of personality, emotions, and motivations. Through storytelling, individuals project their inner thoughts onto ambiguous images, revealing underlying concerns or recurring themes. For instance, describing an image of people holding hands while emphasizing financial struggles may indicate personal economic difficulties. Similarly, a pattern of sad narratives might suggest preoccupation with sorrow or past emotional experiences. TAT functions as a universal psychological tool, applicable across cultures, allowing researchers to decode symbols and themes that provide deeper insight into an individual's mindset (Owa, 2024).

Cramer (2017) focused on the specific effect of individual TAT cards, revealing that different cards elicit distinct types of defense mechanisms. She noted that the 'pull' of each card is context-dependent and can elicit various emotional responses from the test-taker based on the referral question and the cards used. This suggests that each TAT card offers the potential to uncover unique psychological and emotional information, which makes TAT adaptable to different psychological inquiries and contexts.

Responses to projective methods, such as TAT, may be evaluated according to aspects of schema theory. According to Teglasi (1998), when individuals engage in storytelling with picture stimuli, some superimpose associative elements without a clear organizational network, while others impose stereotypes that may or may not fit the stimulus configurations. In contrast, some individuals creatively draw from various elements of their experiences to form a cohesive story that captures the essence of the stimulus and follows the task's instructions. Responses to projective techniques reveal both the implicit organization of knowledge and the content that enters conscious awareness in response to the presented stimuli (Anderson, 1999; Kihlstrom, 1984). Interpretive approaches to projective techniques can focus on the organization of schemas by examining the structural aspects of responses, such as the sequence of ideas expressed, as well as analyzing the content (Teglasi, 1998).

Two aspects of long-term memory structures, or schemas, procedural and declarative knowledge, are particularly relevant to interpreting projective responses. Procedural knowledge refers to unconscious processes or skills, such as the structure of language, the organization of music, or other implicit rules that help order information or perception. Declarative schematic structures, on the other hand, involve the recall of factual information such as names, locations, and historical events (Teglasi, 1998).

Holtzman (1968) created projective tests to ascertain individuals' ideas, intents, and motives based on their interpretations of ambiguous inkblots. McClelland and contemporaneous researchers of TAT (e.g., McClelland, 1978; Winter, 1998) discovered that narratives elicited from individuals in reaction to illustrations of people could yield significant insights into their demands for connection, power, and achievement. In every instance, trained evaluators examined the recordings of individuals' descriptions and identified words or phrases that exemplified the characteristics under investigation by the researchers.

2.6.2.1 The evolution of TAT scoring and interpretation

One of the earliest and most influential scoring systems for TAT was developed by Murray (1943) and later refined by Bellak et al. (1949). Bellak introduced the *Bellak T.A.T. Blanks and Analysis Sheet* (Bellak & Abrams, 1997), which incorporated Murray's personology theory of need-press relationships, psychoanalytic principles, and contemporary clinical practice. His scoring method included ten key categories for analyzing narratives, such as the main theme, the hero's needs, significant conflicts, anxieties, and the protagonist's defense mechanisms. While Bellak's system was widely recognized, many early scoring methods from the 20th century have fallen out of use. Today, clinicians primarily rely on qualitative thematic analysis rather than rigid scoring frameworks (Bellak & Abrams, 1997).

Despite various refinements, the evolution of TAT scoring and interpretation remained inconsistent. Vane (1981) noted a lack of significant advancements in the field, while Rossini and Moretti (1997) observed that TAT research had become increasingly absent from psychological assessment training programs. In response, contemporary researchers have sought to integrate qualitative and quantitative approaches to enhance the reliability and diagnostic value of TAT scoring. Dana (1998, 2007) highlighted the depth of psychological insights that TAT narratives can provide, comparing earlier interpretative frameworks with newer scoring models.

One such development is the *Integrative Analysis System*, which bridges the gap between structured scoring and qualitative interpretation. This approach follows a systematic process involving transcription and coding of verbal and nonverbal responses, computation of formal variables (e.g., emotional tone and reaction time), and intra-subject content analysis using multiple strategies. These include quantitative thematic content analysis (Eron, 1950, 1953; Zubin et al., 1965), estimation of emotional tone and analysis of interpersonal relationship content (Fine, 1955). Additionally, experiential-integrative methods adapted from Dana (1999) personality structural organization criteria allow for a more nuanced interpretation of narratives. Speech organization is further analyzed using Shentoub's categorization system, which helps identify defense mechanisms and assess structural levels of personality organization (Shentoub, 1990).

Recent advancements in TAT scoring and interpretation have been influenced by innovations in language analysis and computational linguistics. The increasing use of automated text analysis tools, such as LIWC, has allowed researchers to examine psychological markers in TAT narratives with greater precision. These tools analyze function and emotion words to uncover patterns related to attentional focus, emotional states, and cognitive processing (Pennebaker et al., 2003; Boyd et al., 2022). Unlike earlier manual methods, modern computational approaches enable large-scale, systematic analysis of narrative structures, providing insights into individual differences and cultural variations in storytelling (Maass et al., 2006). Moreover, recent studies have begun integrating n-gram analysis and machine learning techniques to capture subtle aspects of language style and thematic organization (Oberlander & Gill, 2006). Such advancements mark a shift toward more objective and scalable approaches to TAT interpretation, bridging traditional qualitative analysis with contemporary data-driven methodologies. The expansion of computational text analysis allows researchers to explore how language style reflects psychological states and social relationships across diverse linguistic and cultural contexts (Boroditsky et al., 2003).

2.6.2.2. Cultural and linguistic influences on narrative construction in the TAT

TAT has also been employed extensively in cross-cultural research, providing insights into how different cultural groups interpret the same visual stimuli. For instance, Lonner (1985) emphasized that the storytelling aspect of the TAT is universally applicable across cultures, making it a useful tool for studying diverse groups. Ching et al. (1995) used TAT in a longitudinal study to explore family role perceptions among Japanese American families, revealing persistent themes of

hierarchy, gender norms, and interpersonal acceptance that differed from those found in European American families.

Research on bilingual and multicultural individuals has demonstrated that TAT can reveal variations in narrative construction based on the language employed during administration. Perez-Palen (2022) found that bilingual individuals often create different narratives depending on whether they are using their native or second language, a phenomenon first explored by Ervin (1964). The language used during the TAT can affect the defense mechanisms employed, with participants expressing different themes, emotions, and motivations in their native versus acquired languages. Katsavdakis et al. (2001) confirmed these findings by examining bilingual psychiatric patients and noting that patients expressed different perceptions of relationships, gender roles, and emotional conflicts depending on the language in which TAT was administered. Such research highlights the importance of considering linguistic and cultural factors in psychological testing.

A study conducted by Sudarsana and Suarni (2022) explored the use of TAT to assess students' self-endurance through narrative analysis. The research involved high school and vocational students, examining their ability to manage problems, identify root causes, and demonstrate resilience. The study provided insights into students' coping strategies and how they perceived and responded to obstacles, particularly in the context of the COVID-19 pandemic. The findings highlighted the potential of TAT as a valuable tool for understanding students' resilience, offering implications for educational institutions in fostering character development.

Winter (1994) assessed implicit needs for power, achievement, and affiliation in 323 U.S. college students using a Picture Story Exercise (PSE; McClelland et al., 1989), which consisted of six TAT picture cards. The study applied Winter's (1994) content coding system to analyze the elicited motive imagery. The study found significant variations in motive expression across picture cues, closely resembling findings from Schultheiss et al. (2001) study on German students. Notably, U.S. students demonstrated higher implicit achievement motivation, but lower implicit power motivation and activity inhibition compared to their German counterparts. These findings align with broader cultural analyses highlighting the strong presence of the Protestant work ethic in the U.S., which emphasizes achievement (McClelland, 1961, 1975; Ferguson et al., 2008).

Additionally, Winter's (1994) study revealed ethnic differences in motivational tendencies within the U.S. sample. Asian American participants exhibited higher affiliation motive scores than White participants, which aligns with collectivist values commonly associated with Asian cultures

(Triandis, 2001). African American participants, on the other hand, demonstrated higher achievement motivation than both Asian Americans and Whites, a finding that may be linked to self-selection effects in higher education (Crosby et al., 2003). These cross-cultural and intra-cultural differences underscore the significance of sociocultural contexts in shaping motivational tendencies.

Furthermore, Winter's (1994) findings suggest that implicit motivational patterns differ notably from explicit self-reports, as PSE motive scores showed little overlap with questionnaire-based measures such as the Behavioral Inhibition System–Behavioral Activation System scales (Carver & White, 1994). This discrepancy highlights the limitations of explicit assessments in capturing unconscious motivational drivers, reinforcing the importance of implicit methods such as the PSE in studying motivation (Schultheiss et al., 2004).

Research by Phares (1961) investigated the impact of anxiety on narrative interpretation among college students. The study revealed that students with high anxiety levels were more likely to perceive TAT cards as threatening compared to their less anxious peers. This finding suggests that anxiety plays a significant role in shaping individuals' narrative constructions when presented with ambiguous stimuli.

In a related investigation, Coelho et al. (1969) explored coping mechanisms in college students using a modified TAT approach. The researchers hypothesized that pre-college TAT assessments of competence would be linked to coping behaviors during the students' first year of college. The results confirmed this hypothesis, demonstrating that students' TAT narratives could predict their likelihood of continuing or dropping out of college. This study highlights the TAT's effectiveness in examining psychological resilience and adaptation.

The research on TAT was broadened by Todorova et al. (2008) through their examination of immigrant children's narratives. Their investigation explored the relationship between achievement and affiliative themes, shedding light on the adaptation process in a new cultural setting. The study's outcomes revealed that cultural background played a significant role in shaping the content and themes of the narratives. Specifically, Chinese children tended to focus on community relationships, while Latino children emphasized family dynamics. These discoveries underscore the TAT's importance in investigating the psychological and social challenges encountered by immigrant populations.

The importance of conducting additional research on TAT with diverse populations was underscored by Dana (2000), particularly in relation to understanding the influence of language on personality formation and manifestation.

This concludes the literature review, which has delineated the theoretical underpinnings and contextual dimensions necessary for a systematic examination of the intersection between cognition, cultural schemas, motivational dynamics, and narrative construction within the framework of EFL. The discussion has sought to elucidate the intricate and interdependent relationship between culture, language, and cognition, laying the groundwork for the analytical inquiries that follow.

CHAPTER THREE

METHODOLOGY

3.1. Chapter overview

Chapter 3 details the methodological design that underpins the three empirical studies, framed within a wider toolkit of research methods and instruments. It begins by describing participant selection and common inclusion criteria for Hungarian and Jordanian bilinguals, then introduces the research materials: the Bilingual Language Profile, the silent-film stimulus for Study 1, and TAT picture cards for Studies 2 and 3. Beyond these specific tools, the chapter also surveys related measurement approaches, coding schemes, and validity studies that inform our choices. The chapter next walks the reader through data-collection procedures, from informed consent and language profiling to narrative elicitation tasks, and outlines the multi-step analysis protocol, including proficiency checks, thematic coding, and LIWC-22 processing. The chapter concludes by highlighting how the methodological tools used in this study complement each other and that these methodological choices, and their grounding in the broader literature, ensure rigor, comparability, and comprehensive coverage of the phenomena under study.

3.2. Participants

3.2.1. Common criteria

All three studies together involved 230 bilingual university students from institutions in Hungary and Jordan: all enrolled in English-medium EFL programs. Participants were bachelor's students studying English Studies, English Literature, or Linguistics. Their mean age was 21 years (range 18–25), and all provided informed consent. English was selected as a common L2 medium, ensuring neither group held a native-speaker advantage, to allow a focused comparison of how each used their shared L2 to construct narratives. Among Hungarians, 90 were bilinguals (Hungarian and English), while 26 were trilinguals, often including German. Similarly, 87 Jordanians were bilinguals (Arabic and English), and 27 were trilinguals, frequently incorporating languages like Italian or Turkish. Proficiency in English at CEFR B2-C1 was confirmed via Text Inspector online software; the details of this assessment procedure are outlined in Section 3.5.1.

3.2.2. Study 1 participants

A total of 130 students (66 Hungarian, 64 Jordanian) took part in Study 1. Hungarian participants with 36 males and 30 females, and Jordanian participants with 21 males and 43 females. All met the criteria listed in Section 3.1.1.

3.2.3. Studies 2 and 3 participants

Studies 2 and 3 included 100 students, evenly split between Hungarians (n = 50) and Jordanians (n = 50). The gender distribution varied between groups, with 37 females and 13 males among Hungarians and 42 females and 8 males among Jordanians, as per the common criteria.

3.3. Research materials

3.3.1. Bilingual Language Profile (BLP)

To assess participants' linguistic backgrounds and ensure their suitability, we administered the Bilingual Language Profile (BLP; Gertken et al., 2014) in both data-collection rounds (Study 1 and Studies 2 & 3). This self-report instrument captured participants' English use, native-language proficiency (Hungarian or Arabic), language attitudes, and overall bilingualism. Participants also provided demographic information (age, gender, and language background).

3.3.2. Silent-film stimulus (Study 1)

An animated silent film, *Happiness*, by Tuomas Tuppurainen, a Finnish media professional and designer (Tuppurainen, 2016) was used for the purpose of this study. The silent film features a young man standing at what appears to be a train station, gazing around with a contemplative expression. As he observes his surroundings, he imagines himself feeling sad and stuck in a monotonous life. In a moment of introspection, he notices an older version of himself, which sparks a decision to break free from his current reality. Determined to change, he packs his bag and embarks on a journey to Paris. The film follows his adventures as he goes skydiving, symbolizing his desire for excitement and change. He then decides to pursue his childhood dream of becoming a writer, eventually penning a book that is published. Overcome with curiosity, he visits a bookstore to find his work on display, where he unexpectedly meets the woman of his dreams. The two share a moment of connection, and just as they are about to kiss, the man snaps out of his dream, returning to the train station where it all began.

The film artfully weaves a story by exploring the contrast between personal ambitions and the constraints of reality. The film opens with scenes portraying individuals standing at the train station. The protagonist in the silent film starts daydreaming which reflects his inner desires and longing. Through a series of events, the character imagines fulfilling his dreams, whether embarking on adventurous journeys, achieving professional success, or finding true love. These vivid daydream sequences capture moments of joy, triumph, and emotional fulfillment.

Below are several snapshots taken from key scenes in the film (Figure 3), which provide a visual representation of the man's emotional journey and pivotal moments that inspire the narrative development:

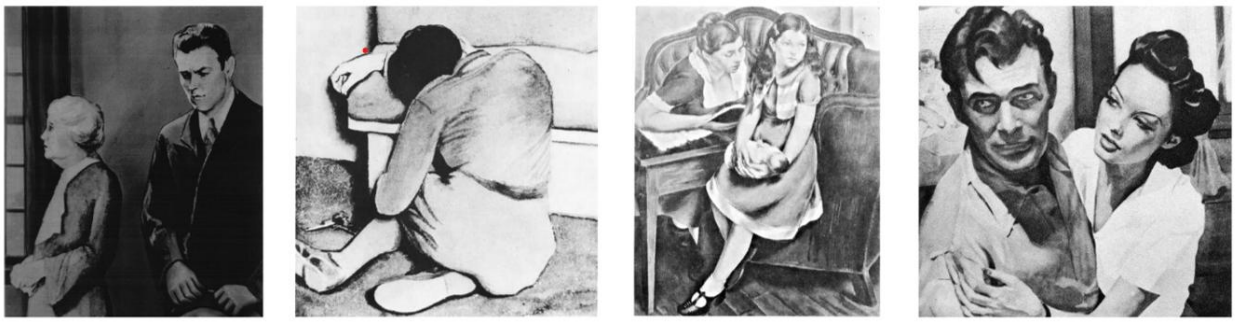
Figure 3. Snapshots from the animated silent film 'Happiness' depicting the Protagonist's Emotional Journey and Narrative Development

The study's chosen film is accessible at the following link: 'https://youtu.be/_O,"swhichPwas?si=_ZDO7JGfGCJd6mk9'. The film showcased linguistic diversity and offered participants exposure to various language structures, vocabulary, and context.

3.3.3. TAT picture cards stimuli (Studies 2 and 3)

Studies 2 and 3 used four specific picture cards from the Thematic Apperception Test (TAT) (Figure 4). Consistent with established TAT practice, the cards were not selected arbitrarily but were deliberately chosen for their thematic relevance and capacity to elicit culturally and psychologically rich narratives. Murray's original guidelines (1943) and subsequent research (Lilienfeld et al., 2000; Cramer, 2004) emphasize that the TAT is intentionally flexible: researchers select a subset of cards (typically 4–12) to match the study's aims and participants' cultural or developmental context.

Figure 4. The four Thematic Apperception Test (TAT) Picture Cards used in the study



Picture card 1 Picture card 2 Picture card 3 Picture card 4

Picture card 1: "Mother, Adult Son" – This image was intended to elicit narratives related to family relationships and intergenerational conflict.

Picture card 2: "Defeated Woman" – Designed to explore themes of despair, relationship struggles, and mental health.

Picture card 3: "Mother, Daughter, Doll" – This scene, aimed at prompting discussions around childhood, early marriage, and parental control.

Picture card 4: "Hot Couple" – Often interpreted as a romantic couple engaged in an intimate or heated conversation, this picture was designed to explore themes such as jealousy, infidelity, and power dynamics.

I created the above crude namings to facilitate consistent reference throughout the study. The names assigned to each picture reflect my interpretation of the characters portrayed, but it does not necessarily align with how the participants viewed them.

3.4. Data collection and procedure

3.4.1. Common steps (informed consent and BLP)

Informed consent: Participants received an information sheet and signed consent forms prior to any task.

The Bilingual Language Profile (BLP): All 230 participants completed the BLP in a paper-based format. Subsequently, the data collected through the BLP were transferred to an Excel spreadsheet to facilitate further analysis in the later stages of the study.

3.4.2. Silent-film task viewing (Study 1)

For the narrative writing task, participants were shown the silent film and immediately afterward, they were asked to write a narrative of the film along with a personal reflection. In total, 130 narratives were collected (64 from Jordanian bilinguals and 66 from Hungarian bilinguals). The narratives were then transcribed into Word documents and prepared for thematic analysis, which was conducted in the later stages of the study.

3.4.3. TAT picture-cards task presentation (Studies 2 and 3)

Participants were tested individually in a quiet, distraction-free environment. As mentioned earlier in the participants section, a total of 100 bilingual participants (50 Jordanian and 50 Hungarian) took part in the study. Each participant was presented with the four TAT cards sequentially and asked to write a narrative for each card in English, resulting in a total of 400 narratives. For each card, participants were prompted using the standard TAT structure derived from the original administration instructions (Murray & Morgan, 1943): they were asked to describe (i) what led up to the scene, (ii) what is happening at the moment, (iii) what the characters are feeling and thinking, and (iv) how the story might conclude. They were also encouraged to focus on the characters' thoughts, feelings, and motivations. Each session lasted from 45 minutes to one hour, with no strict time limits imposed, allowing participants to explore their ideas thoroughly.

By using English as their second language, participants were required to navigate the interplay between their native cultural schemas and the cognitive restructuring involved in expressing themselves in an L2. Using English as a common linguistic medium provided a diagnostic context for this study. It allowed for an investigation into whether cultural schemas and themes from the

participants' L1s were transferred into their L2 narratives or whether the linguistic and conceptual resources of English facilitated the creation of distinct expressive frameworks.

3.5. Data analysis

3.5.1. Proficiency Verification (BLP & Text Inspector)

Before proceeding to the thematic and LIWC analyses in all three studies, all 230 narratives were vetted for English-language proficiency and overall suitability. I cross-referenced self-reported BLP scores (Gertken et al., 2014) with Text Inspector's CEFR-based metrics (MTLD, VocD) to confirm that every text met our B2–C1 threshold. Lexical diversity was measured through VocD using Text Inspector (Bax, 2022), a lexical profiling tool developed by Stephen Bax and supported by the Centre for Research in English Language Learning and Assessment (CRELLA). Text Inspector analyzes the vocabulary content of texts using over 200 CEFR-benchmarked metrics and is trusted by universities and organizations worldwide (e.g., University of Oxford, Yale, Cambridge, Melbourne, and Stockholm). Research has identified these metrics as statistically significant for distinguishing between writing levels, and using multiple metrics increases score reliability. This step ensured that subsequent analyses would reflect genuine cultural and motivational differences rather than variations in language ability. Both groups had comparable linguistic profiles in terms of age, language use, proficiency, and attitudes toward English. The observed differences were minor and not statistically significant, indicating that both the Hungarian and Jordanian participants were similarly proficient in English; the outcomes of BLP and text inspector are outlined in the results in sections 4.2.1. and 5.2.1. (See Chapters 4 and 5). These results provide a solid foundation for understanding the participants' linguistic capabilities, which are important for interpreting their written narratives in response to the silent film.

3.5.2. Integration of theory into data analysis

This study employs a mixed-methods approach, integrating cultural linguistics and Hofstede's cultural dimensions theory with Thematic Analysis (TA) and Linguistic Inquiry and Word Count (LIWC-22). This section justifies this design and explains how these frameworks and tools are synergistically combined.

The research phenomenon's complexity requires diverse analytical lenses. Cultural linguistics provides a micro-level understanding of how cultural knowledge is encoded and expressed through linguistic patterns, revealing the cognitive and cultural underpinnings of language use and how

specific linguistic choices reflect deeper cultural conceptualizations (Grant & Osanloo, 2014). Conversely, Hofstede's Cultural Dimensions Theory offers a macro-level perspective, enabling the analysis of broader societal values and their influence on communication behaviors (Hofstede, 2011). Using only one framework would yield an incomplete picture: cultural linguistics might miss broader societal influences, while Hofstede's theory could overlook subtle linguistic manifestations of culture (Grant & Osanloo, 2014; Hofstede, 2001). Their integration creates a comprehensive foundation for micro- and macro-level cultural analysis.

3.5.2.1 Analytical Tools: TA and LIWC-22

The chosen analytical tools, TA (qualitative) and LIWC-22 (quantitative), are selected for their complementary strengths in processing narrative data:

1. **TA**: This flexible qualitative method systematically identifies, analyzes, and reports patterns (themes) within textual data, providing rich, in-depth insights into participants' experiences and perspectives (Braun & Clarke, 2006; Nowell et al., 2017). Its inductive nature allows for the emergence of themes directly from the data, making it suitable for exploring the nuanced cultural conceptualizations inherent in narratives as theorized by Cultural Linguistics.
2. **LIWC-22**: This dictionary-based text analysis software quantifies the frequency of specific linguistic categories (e.g., pronouns, emotional words, cognitive processes) within a given text, offering an objective and systematic means of identifying linguistic markers (Pennebaker et al., 2015). This quantitative approach identifies markers potentially indicative of cultural values or communication styles, as posited by Hofstede's theory. Their combination enables triangulation of findings, where qualitative themes can be quantitatively supported or further explored, leading to a more robust understanding (O'Cathain et al., 2010).

3.5.2.2 Integrating theoretical foundations with analytical tools

- **Cultural Linguistics with TA & LIWC-22:** Cultural Linguistics posits that language is a window into cultural conceptualizations (Grant & Osanloo, 2014). TA serves as a primary tool for exploring these conceptualizations qualitatively. By systematically coding recurring ideas, beliefs, and values, TA identifies themes reflecting cultural metaphors or value systems (Grant & Osanloo, 2014) (e.g., themes around 'face' or 'harmony'). LIWC-

22 complements this by quantifying linguistic manifestations. Custom dictionaries based on Cultural Linguistics insights (e.g., words for group affiliation in collectivist cultures) allow quantitative assessment. LIWC's standard categories (e.g., emotion, cognition) can also explore how cultural conceptualizations influence expression (Pennebaker et al., 2015).

- **Hofstede's Dimensions with TA & LIWC--22:** Hofstede's theory provides a framework for understanding how national cultures influence values and behaviors (Hofstede, 2001). TA identifies qualitative manifestations of these dimensions in narratives (e.g., themes of hierarchy in high Power Distance cultures, or individualism (Hofstede, 2001)). LIWC-22 quantitatively validates and extends these insights by correlating linguistic markers with dimensions (e.g., singular vs. plural pronoun frequency for Individualism/Collectivism; cautious language for Uncertainty Avoidance) (Pennebaker et al., 2015).

The explicit justification, demonstration of complementarity, and detailed integration ensure methodological coherence, enhance validity through triangulation, and offer a model for future mixed-methods cultural-linguistic research.

3.5.3. Studies 1 and 2: Analyses of silent-film and TAT card narratives

The analytical phase for Studies 1 and 2 comprised two complementary strands: LIWC-22 and TA. LIWC-22 was applied to extract baseline psycholinguistic profiles (e.g., analytic thinking, emotional tone, pronoun use), but the primary analytic focus in these two studies is given to the reflexive thematic analyses of cultural schemas.

1. **Descriptive LIWC-22 Analysis:** LIWC-22 provided data on word count, word frequency, and Language Style Matching (LSM), generated word clouds, and compared the linguistic and psychological characteristics of narratives based on algorithms that have been informed by prior empirical research (cf. Jordan et al. (2019); Kacewicz et al. (2014) and Kalichman and Smyth (2021).

Note: *This LIWC-22 analysis was applied exclusively to the narratives collected in Study 1 (silent film stimulus), whereas the Thematic Apperception Test (TAT) picture card narratives were analyzed thoroughly and separately in Study 3 (Chapter 6)*, *where motivational drivers across the narratives are quantitatively examined. Detailed discussion of LIWC-22 can be found in Section 2.4.2 of the literature review.*

2. **Thematic Analysis (TA):** This Thematic Analysis in this study drew on the principles and procedures detailed by Braun and Clarke (2006, 2016) and O'Connor and Joffe (2020) to uncover the cultural schemas shaping bilingual narratives. This process of thematic analysis was applied in both Study 1 and Study 2. For a comprehensive review of TA, its conceptual foundations, applications across fields, and methodological debates, see Section 2.4.1 of the literature review. The reflexive TA process unfolded as follows:
    - **Familiarization**: Both coders (one Hungarian, one Jordanian) immersed themselves in all narratives (Study 1: silent film stories; Study 2: TAT card stories), noting initial impressions of cultural themes and schema activations.
    - **Generating Initial Codes**: Using the operational typology of cultural schemas (Sharifian, 2011; Boutyline & Soter, 2021), coders systematically labeled segments according to five schema types—Event, Role, Propositional, Emotion, and Image—whenever a participant invoked a culturally grounded script, belief statement, or affective pattern.
    - **Searching for Themes**: Codes were clustered into candidate themes (e.g., *Autonomy, Romantic Devotion, Family Role, Communal Mourning*), representing bundles of schema activations across narratives.
    - **Reviewing Themes**: Themes were refined by examining coherence within and distinction between themes, ensuring each met the functional criteria for cultural schemas (automatic activation, representational structure, social sharedness).
    - **Defining and Naming Themes**: Final theme names were concise and typologically grounded, reflecting Sharifian's fivefold schema categories. For Study 2, theme labels also noted the card(s) where they predominated.
    - **Writing Up**: The themes were mapped back onto the full data set to extract illustrative quotes and frequency counts.

3. Intercoder Reliability (ICR): To ensure coding consistency, Two coders independently applied schema codes to every narrative. The presence/absence of each schema type was recorded, and **Cohen's kappa** (Cohen, 1960) was calculated using the DATAtab (2025) tool.

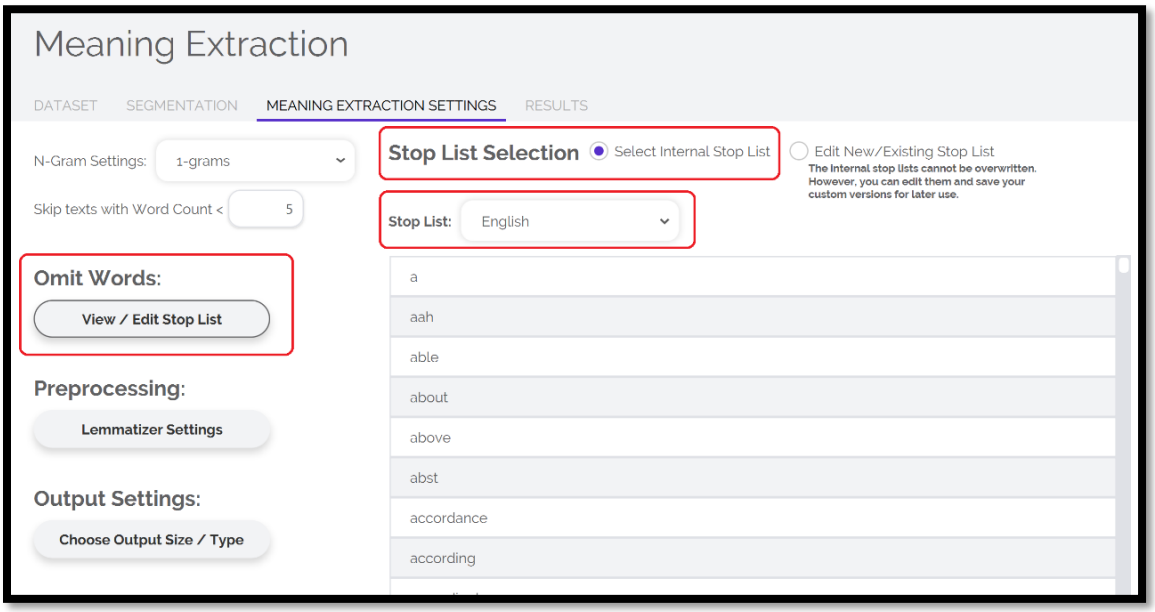
3.5.4. Study 3: LIWC-22 Analysis of implicit motives in TAT Narratives

Text preprocessing with LIWC-22

The narratives were preprocessed and analyzed using LIWC-22 software, which quantifies linguistic features associated with psychological constructs (Pennebaker et al., 2015). Key preprocessing steps included:

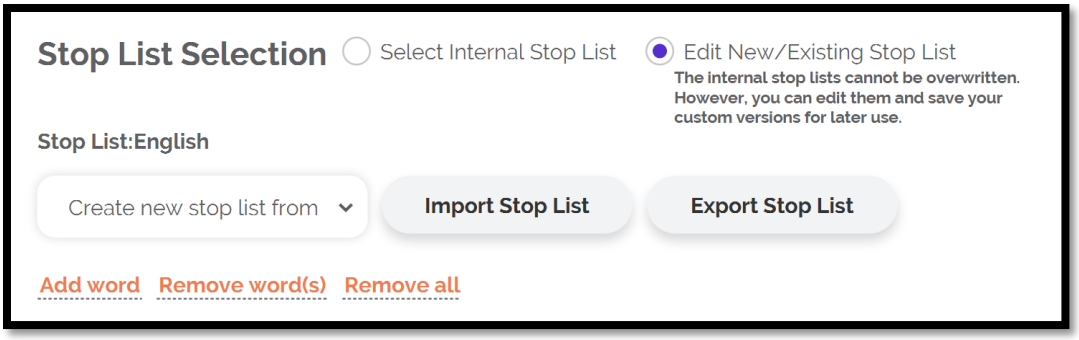
- **Lemmatization:** Words were converted to their simplest forms to standardize the dataset, a standard practice in natural language processing (Boyd & Pennebaker, 2017) (see Figure 5).

Figure 5. Lemmatization process in LIWC-22 preprocessing – standardizing text for psychological analysis



- **Stop words removal:** Common function words and dataset-specific high-frequency words were excluded using both prebuilt and custom stop lists to reduce noise in topic modeling (Chung & Pennebaker, 2008) (see Figure 6).

Figure 6. Stop words removal in LIWC-22 preprocessing – reducing noise for accurate theme extraction



- **Document-term matrix creation:** LIWC-22 generated a document-term matrix (DTM) that recorded the presence and frequency of significant words across texts. There are no hard-and-fast rules for choosing which words to include and which to omit from DTM, however, LIWC-22 provides a few options for choosing which words to retain based on the distribution of words in your dataset.

- **Variable extraction:** LIWC-22's thematic categories (e.g., social processes, emotional expression) were used to map linguistic variables to psychological constructs, ensuring consistency in interpreting results (Pennebaker et al, 2022). In LIWC-22, the Categories tab displays available dictionary categories, allowing users to enable/disable specific ones as can be seen in figure 7.

Figure 7. Document-Term Matrix (DTM) generated by LIWC-22 – quantifying word frequencies across themes

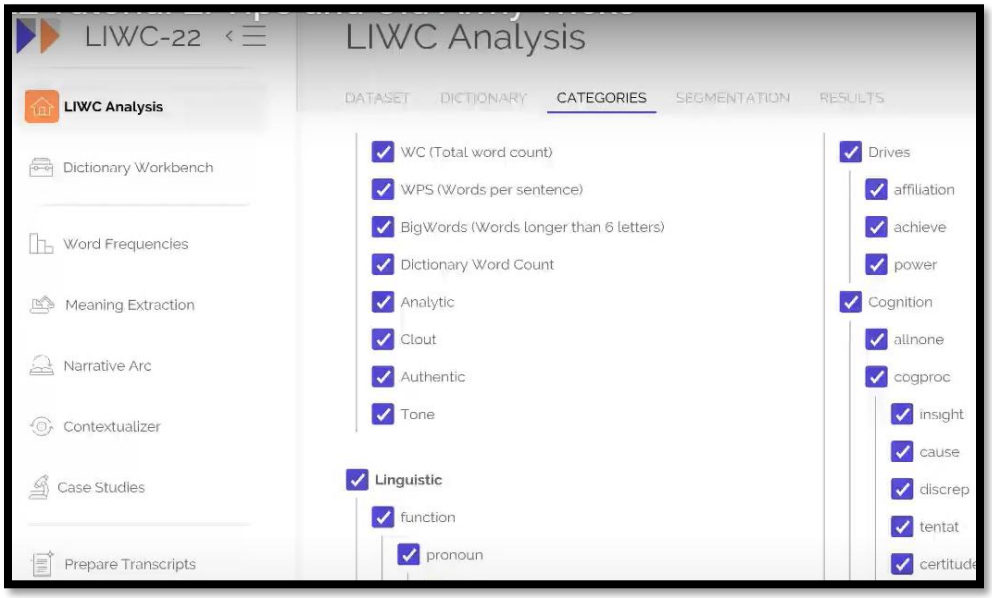


Figure 8 shows how the outcome looks like in LIWC-22 before transferring it to SBSS for statistical analysis:

Figure 8. Variable extraction using LIWC-22 thematic categories – mapping linguistic features to psychological constructs

RESULTS

NorwayKiller

Segment	Analytic	Dic	i	we	tone_pos	tone_neg
1	91.01	5.18	0.21	0.49	2.02	2.46
2	90.06	5.7	0.28	0.47	1.66	3.29
3	97.08	4.84	0.19	0.19	1.56	2.89
4	95.61	4.78	0.22	0.16	1.75	2.66
5	88.62	5.67	0.34	0.93	1.83	2.57
6	79.8	5.97	0.4	0.7	2.01	2.86
7	94.14	5.41	0.36	0.4	1.39	3.27
8	87.47	5.51	0.39	0.56	1.84	2.72

LIWC-22 reliability considerations: LIWC-22 results in this study are based on a psychometrically validated tool that ensures scoring consistency across large narrative datasets. Separate analyses were conducted for each picture card to explore specific motivational themes elicited by each visual stimulus. Because LIWC-22 uses a pre-validated, rule-based dictionary approach, no interrater coding was required. Its internal consistency has been demonstrated using the Kuder–Richardson Formula 20 (KR-20), which is appropriate for dichotomous (present/absent) word coding. Reported KR-20 values for key LIWC categories range from .62 to .88, indicating good internal reliability (Pennebaker & Chung, 2007; Pennebaker et al., 2015). In addition, LIWC categories have shown moderate correlations ($r \approx .20–.40$) with human-coded judgments, providing external validity for its automated linguistic analysis (Chung & Pennebaker, 2008).

Statistical analysis in SPSS: The outcome data from DTM and variable extraction were transferred for both exploratory and inferential analyses. Statistical techniques included:

- **Descriptive statistics:** Mean and standard deviation for each motivational driver and LIWC-22 category were computed to summarize trends across cultural groups.

- **Independent samples t-tests:** Significant cross-cultural differences in linguistic patterns were identified through t-tests.
- **Multivariate analysis of variance (MANOVA):** A MANOVA assessed the collective impact of cultural background and picture type on motivational drivers (achievement, affiliation, power), accounting for intercorrelations among dependent variables.
- **Between-subjects effects: one way ANOVA** tests examined individual effects of culture and picture type on each motivator.
- Interpretation of non-significant results: For variables lacking statistical significance (e.g., religion, future focus), descriptive trends and cultural nuances were qualitatively analyzed.

CHAPTER FOUR

STUDY 1: DIFFERENCES IN EFL NARRATIVES IN RESPONSE TO A SILENT FILM: A COMPARISON OF HUNGARIAN AND JORDANIAN BILINGUALS

4.1. Chapter overview

Chapter 4 presents the results and discussion of Study 1, which investigates how Hungarian and Jordanian bilinguals construct EFL narratives in response to a silent film stimulus, applying cultural schema and linguistic–cognitive theory. By analyzing written narratives from university students in both countries, the study reveals how distinct cultural and linguistic backgrounds shape responses to identical visual prompts. Its goals are to identify universal narrative patterns alongside culture-specific schemas and illuminate how bilingualism mediates narrative construction in English. The chapter addresses Study 1 Research Questions 1–4 and their hypotheses (see Chapter 1, pp. 6–8). It first reports descriptive LIWC-22 statistics profiling the cognitive, emotional, and social dimensions of participants' language use. Thematic analysis findings follow, highlighting both shared cultural schemas and group-specific themes reflecting differing sociocultural values. The discussion concludes by linking results to broader methodological and theoretical frameworks, showing the dynamic interplay between cultural schemas and narrative structure. Universally emerging motivations for autonomy and belonging surface, yet their narrative realization diverges culturally. This confirms that while core schemas are shared, collectivist versus individualist frameworks uniquely shape Jordanian and Hungarian stories. The chapter thus demonstrates how cultural schemas dynamically guide bilingual narrative construction in English, underscoring the value of combining cultural schema theory with cognitive linguistic methods to illuminate EFL storytelling.

4.2. Results and discussion

4.2.1. BLP and Text inspector outcomes

BLP results revealed context-specific patterns of English language use, which were consistent across both groups. English was most frequently used in academic and professional settings, in

contrast, English use was minimal in familial interactions, reflecting cultural norms where native languages (Hungarian or Arabic) dominate family communication.

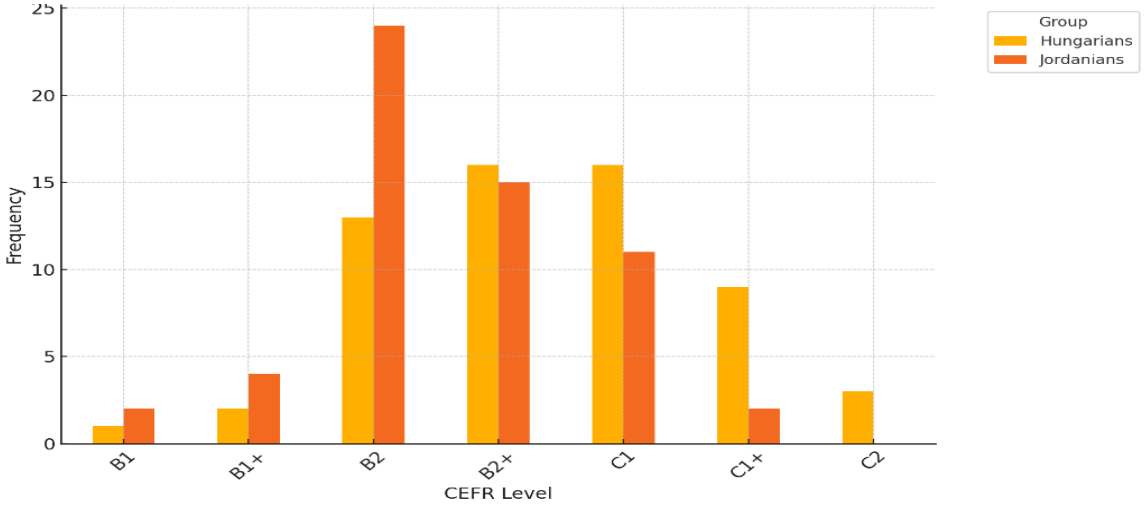
Both groups demonstrated strong English proficiency, with the Hungarians having a mean score of 4.8 and the Jordanians at 4.7 on a scale of 1 to 6. Attitudes towards English were also similar, with the Hungarian participants scoring 3.9 and the Jordanians scoring 4.0 on the BLP's attitude scale. However, both groups expressed a higher attitude toward their native languages, Hungarian and Arabic, which aligns with their cultural and linguistic contexts (Table 1).

Table 1. English proficiency and language attitudes based on BLP, and lexical diversity scores from Text Inspector based on the participants' written narratives

	Hungarians	**Jordanians**
English proficiency (Mean score /6)	4.841	4.703
Language attitude (Mean score /6)	3.909	4.023
Language use (weekly %)	42.91	37.58
Lexical diversity (MTLD) (mean score)	70.25	65.13
Lexical diversity (VocD) (mean score)	70.87	59.81

Each silent-film narrative was then processed through Text Inspector, which benchmarks written texts against CEFR levels and computes MTLD and VocD scores.

Figure 9. CEFR levels for the Hungarian and Jordanian participants from text inspector based on the scores of the participants' written narratives



For lexical diversity, Text Inspector showed differences in the MTLD and VocD scores between the two groups. Hungarians exhibited higher lexical diversity compared to the Jordanians. However, these differences weren't significant. Moreover, figure 9 shows the distribution of CEFR levels. Both Hungarians and Jordanians had a similar spread of proficiency levels, with the majority falling within the B2, B2+ and C1 range. According to the CEFR proficiency scale, Hungarian participants predominantly reached the C1 level, while Jordanian participants mostly fell within the B2-C1 range. Importantly, both groups met the study's proficiency criteria of B2–C1. The choice of B2–C1 proficiency criteria aligns with common practices in academic research involving narrative tasks. Research often selects participants within this range to ensure a sufficient command of language complexity and grammatical accuracy necessary for detailed narrative construction (British Council, 2021).

4.2.2. Descriptive LIWC-22 Analysis

LIWC-22 was used to generate baseline psycholinguistic profiles for all silent-film narratives (Pennebaker et al., 2015). By automatically extracting word counts, word-frequency distributions, big-word usage, and Language Style Matching (LSM)—and by producing visual word clouds—LIWC-22 illuminated both shared and divergent language patterns across Hungarian and Jordanian participants. The results (Tables 2–3) set the stage for our subsequent thematic analysis of cultural schemas.

Table 2 provides an insight into the average number of words in the narratives written by both Hungarian and Jordanian participants, in addition to the average number of words per sentence and the usage of complex or 'big' words. This table demonstrates the differences in writing style between the two groups.

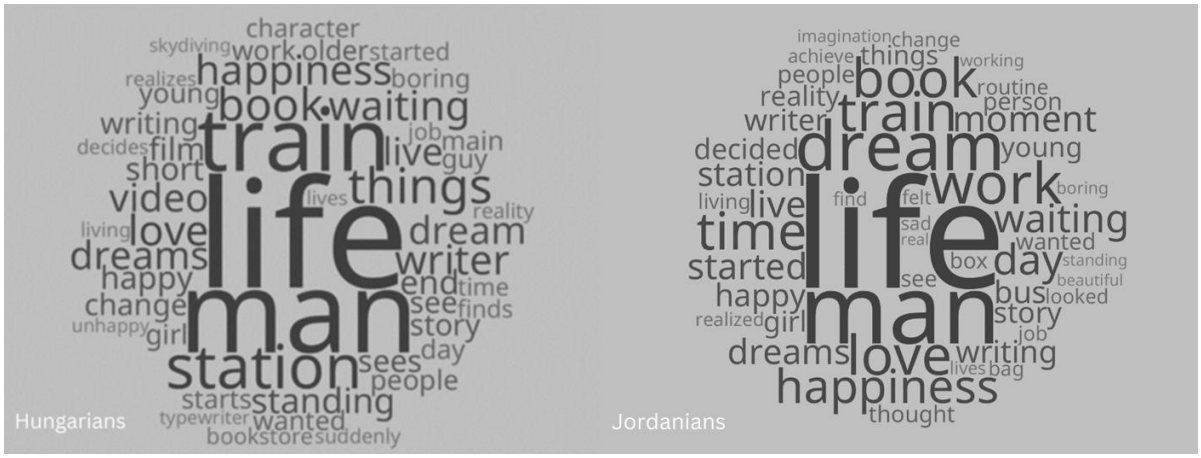
Table 2. Word count avg, words per sentence, and big words per sentence avg

	Word count avg.	**Words per sentence avg.**	**Big words per sentence avg.**
Jordanians' Narratives	217	14	14
Hungarian' Narratives	151	17	16

Word frequency between groups: Figure 10 presents word clouds generated by LIWC-22 from the narratives written by both Jordanian and Hungarian participants, based on the same silent

film. These word clouds highlight the distinctions and commonalities in word choices between the two groups, as evidenced by the relative sizes of words within the clouds.

Figure 10. Word clouds for Hungarians and Jordanians as generated by LIWC-22



The word frequency analysis offers a glimpse of the language preferences and trends within each group. Certain words and themes were notably predominant in the narratives of both groups, whereas others showed distinct variations (Table 3).

Both groups foreground positive affect and romantic themes, “happiness/happy” and “love story/love/falling in love” feature prominently in each set of narratives, underlining a mutual narrative schema of joy and personal connection. However, Jordanians invoke notions of freedom nearly three times more often than Hungarians, suggesting that autonomy and self-expression are particularly salient in their storytelling, whereas only Hungarians refer explicitly to kissing, dating, or family members, pointing to a more interpersonal and domestic schema in their narratives.

Both cohorts frequently mention trains, but buses appear only in Jordanian narratives, hinting at different everyday mobility experiences. Hungarians, by contrast, more often situate stories in bookstores and libraries, reflecting a schema that values educational or literary settings.

When it comes to imagination and future-oriented action, dreams and the writing act are equally central for both groups, yet Hungarians uniquely label the process as “daydreaming,” marking a conscious stance toward creative reflection. Adventure-oriented schemas, like skydiving or travel, also surface slightly more in Hungarian narratives, whereas Jordanians alone invoke God/Allah, “God/Allah” is included under “Relationships/Family” because, for Jordanian participants, references to the divine are narrated in terms of an intimate, familial-style bond, reflecting a cultural schema in which one’s relationship with Allah is experienced and expressed

much like a close kinship connection. Taken together, these patterns reveal that, while both Hungarian and Jordanian bilinguals draw on core emotional and imaginative schemas, they diverge in the interpersonal, spatial, and spiritual templates that shape their L2 storytelling.

Table 3. Four clusters that incorporated the relevant words could be created to make comparisons of the word choices of the Hungarian and Jordanian participants

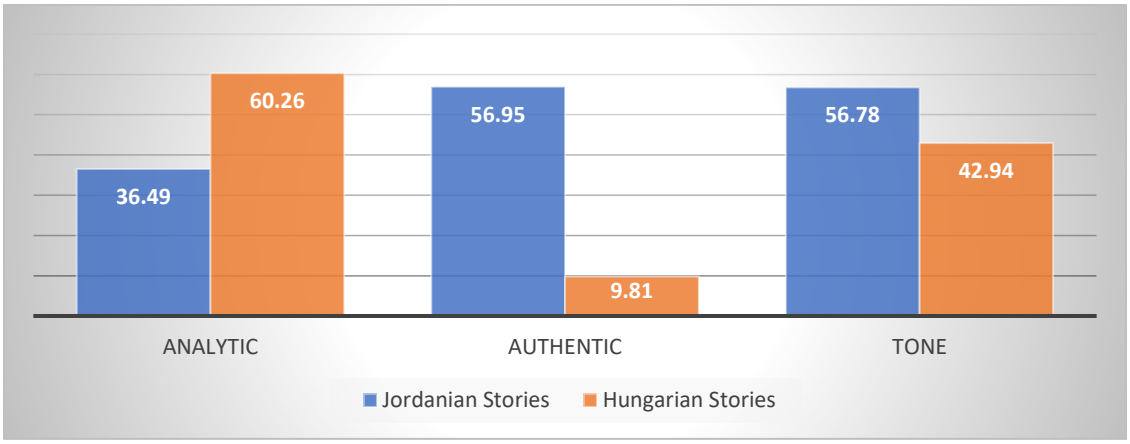
#	**Word cluster**	**Word**	**Word Freq./ Jordanians**	**Word Freq. / Hungarians**
1	Emotions	happiness/ happy	50	40
2		sad/ sadness/ unhappy/ saddest	13	17
3		boring/ bored/ mundane/ monotone	18	23
4		miserable	7	4
5		free/ freedom	9	3
6		mid-life crisis	0	3
7		haunting dream	8	8
8		love story/ love/ falling in love	55	29
9	Relationships and family	kissing	0	15
10		date/dating	1	7
11		girlfriend	2	5
12		marry/ married/ marriage	11	0
13		family/parents	9	0
14		friend	8	0
15		father/ dad	8	1
16		god/Allah	3	0
17	Setting/ location/ environment	train	33	45
18		bus	14	0
19		bookstore/ bookshop	9	20
20		library	8	2
21		Paris	7	10
22	Daydreaming	dreams/ dreamt/ dream world	70	66
23		imagination/ imaginary life/ imagine	24	19
24		daydreaming	2	13
25		travel/ travelling/ travelled	12	18
26		skydiving/ parachuting	9	18
27		playing videogames	8	7
28		typing machine/ typewriter	12	17
29		writing/writer/ write	39	39
30		publish/ published	23	20
31		childhood dream/old dream	7	12

Note that the word-frequency counts from Table 3 can inform the interpretation of the thematic findings, illuminating how often particular schemas surface lexically, yet the frequencies themselves are not a direct component of the thematic analysis.

The analysis also revealed a high Language Style Matching (LSM) score of 0.91 between Hungarian and Jordanian English narratives. This high LSM score, which indicates linguistic similarity, suggests that despite their cultural differences, the two groups, who share a common age group and academic background, exhibit striking linguistic similarities in their narrative style, vocabulary, grammar, and sentence structure. This alignment in language style could be attributed to the nature of the task itself, and English as the language of instruction for both groups. These results emphasize the influence of shared narrative experiences when conveying narratives (Ireland and Pennebaker, 2010).

Summary measures: The summary measures used in this analysis, including analytic, authentic, and emotional tones, were the result of sophisticated algorithms drawn from a range of LIWC variables (Figure 11).

Figure 11. Text characteristics: Analytic thinking, authenticity, and emotional tone



Analytic thinking: This dimension measures the degree to which language reflects formal, logical, and hierarchical thinking patterns. In the provided data, the Hungarian text (60.26) exhibits a notably higher level of analytic thinking than the Jordanian text (36.49). This suggests that Hungarian English narratives employ a more structured and logical language aligned with academic and reasoning-oriented discourse.

Authentic: The algorithm for Authenticity is associated with increased interest in the perceived connection to another person. It gauges spontaneous speech without self-regulating or filtering. Phrases from the participants' narratives, such as *"I met my soulmate, Charlotte who showed me more beautiful colors in life." "I got the courage to confess my feelings to her." "She makes me someone else. She accepts me. I thought I will not find anyone who understands me and lightens my darkness.* The Jordanian narratives (56.95) scored higher in authenticity than the Hungarian narratives (9.81).

Emotional tone: Although LIWC-22 includes both positive tone and negative tone dimensions, The algorithm is built so that the higher the number, the more positive the tone. Numbers below 50 suggest a more negative emotional tone. Jordanians (56.78) exhibited a higher emotional tone than Hungarians (42.94) did. This suggests that Jordanian texts tend to convey more emotions. The word frequency analysis also highlighted more frequent emotional expressions in the Jordanian English narratives as can be seen in table 3.

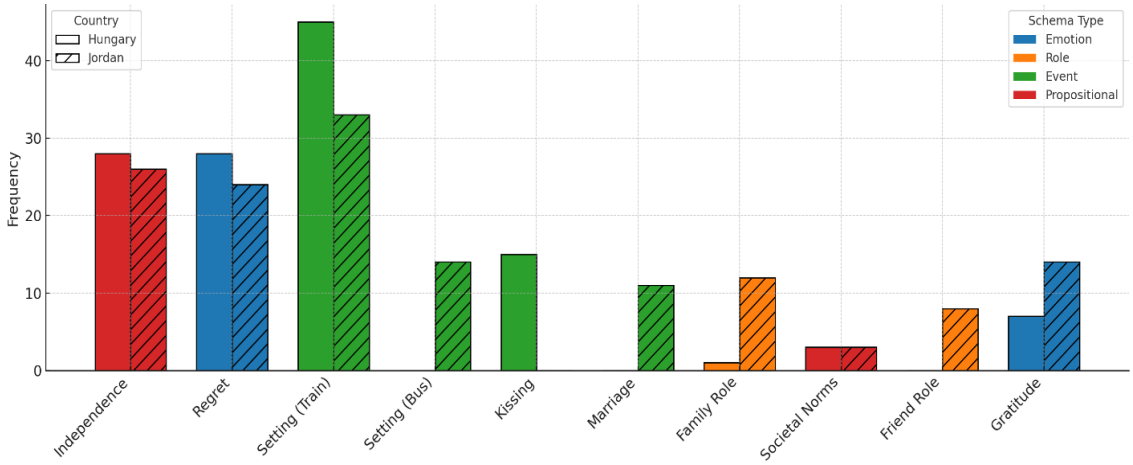
These linguistic and psychological dimensions highlight differences in how Jordanian and Hungarian participants express themselves and structure their narratives.

4.2.3. Findings from the thematic analysis

Intercoder reliability: TA of the 66 Hungarian and 64 Jordanian narratives, evaluated using Cohen's Kappa, revealed substantial intercoder reliability with scores of approximately k= 0.8715 and k= 0.9220, respectively. These high levels of agreement between coders are based on categorizing narratives according to the presence or absence of cultural schemas and cultural dimensions of collectivism and individualism.

The findings of themes offer a rich presentation of perspectives on life, values, and societal norms within their respective cultural contexts. This visualization (Figure 12) groups themes by schema type (Emotion in blue, Role in orange, Event in green, Propositional in red) and shows Hungary (solid) vs. Jordan (hatched). It highlights shared scripts like Independence and Regret, alongside culturally distinct emphases such as Jordan's frequent Family Role and Gratitude schemas, versus Hungary's focus on Setting and Kissing scripts

Figure 12. Theme frequencies by cultural group for silent film narratives colored by schema type, hatched by country



4.4.3.1. Similar themes between the two groups

Independence (Propositional schema): Participants from both Jordan and Hungary foregrounded independence, the belief that one should freely choose one's own path and act on personal aspirations. Across 28 Hungarian and 26 Jordanian narratives, speakers articulated a shared propositional schema: that life's purpose lies in self-determination rather than just following external expectations. (Table 4).

Table 4. Quotes for 'Independence' theme

Jordanian narratives	**Hungarian narratives**
1. *"One day with the light of the sun in an ordinary, boring, dark and hopeless work day. I see that I am not anymore blind. where are my dreams that I did all that for?? Where am I? why am I here? No No, I will come back FROM NOW ON!"*	**1.** *"One life, be who you want to be. Be with people you want to be with. Life is supposed to be hard, but it is not. You are born to go to school. Learn those things you want to do in life, not those you don't want. So, yes, it is this easy."*
2. *"I think you should do what you love because life is short and work and money are not everything."*	**2.** *"Be brave, step out of the line and the vicious circle and do what makes you feel alive."*
3. *"He knew that any dream to be achieved needs a real well and a real step forward in order to get out of this dull life."*	**3**. *"The moral of the story is that everyone should live their life as they want. So, achieve everything you dream about."*
4. *"Do whatever you love not what you should do."*	**4.** *"We can all imagine a better life for ourselves, but we also have to act on it if we want change."*

All quotes express shared evaluative judgments about the value of self-determination, statements about how one *ought* to live. Here, the quotes ("learn those things you want to do," "achieve everything you dream about," "do whatever you love") overwhelmingly express normative judgments about how one ought to live. They reflect a culturally shaped belief that autonomy is a core moral good.

Regret (Emotion schema): Speakers in both Hungary and Jordan convey a pronounced Emotion Schema of Regret, an effective response to perceived failure or stagnation (Table 5).

Table 5. Quotes for 'Regret' theme

Jordanian narratives	**Hungarian narratives**
1. *"Reality became the antagonist in my story. It didn't want me to achieve my goals"*	**1.** *"If you don't do the things you're interested in while you are young, you may never have the chance to do them."*
2. *"The train arrived, all that dream disappeared in a second and I went back to my desperate life. "*	**2.** *"He is snapping back to reality, his boring, grey everyday lifestyle... "*
3. *"I found myself in a vortex of thoughts about who I am. Does my existence have an impact on this world? It feels like everyone's moving ahead... and I'm the only one who's lost my way. It's like I'm the only loser, the only one standing still"*	**3.** *"Our hero wonders if he would turn out like that old man, growing old with the job that he hates, and living an unhappy life "*
4. *"The only thing more unthinkable than leaving was staying"*	**4.** *"I think if we want to change, we have to do so because when we become old, we will regret it.*

In 28 Hungarian and 24 Jordanian narratives, participants express remorse and self-critique, linking missed chances not only to unfulfilled lives but to deep personal sorrow. These narratives frame regret as a culturally salient feeling that arises when individuals reflect on inaction, stressing the emotional weight of opportunities passed by. Both groups recognize missed opportunities and the impact of time on their lives. Hungarian narratives advocate proactive change and pursuing dreams, while Jordanian narratives highlight emotional turmoil and regret from inaction.

4.4.3.2. Differing themes between the two groups

The narratives also offer distinct perspectives on various themes. Distinct cultural schemas shape narratives, signifying societal and individual influences on play within narratives. Moreover, the narratives underscore the more prevalent collectivist cultural dimension in Jordanian narratives and a clearer inclination towards individualism in Hungarian narratives.

Setting/location/environment (Event schema): Both Jordanian and Hungarian participants draw on a transit event schema, the culturally shared script of waiting for and boarding public transport. However, the Jordanian narratives frequently substitute a bus station for the film's depicted train station, while Hungarian narratives remain faithful to the train station setting. This divergence highlights how a standard event schema can be customized by local experience: Jordanians mapped the abstract script of "going to work" onto buses, reflecting the prominence of bus travel in their daily lives, whereas Hungarians adhered to the film's train-based sequence. As seen from Table 3, the word *'bus'* was mentioned 14 times by Jordanians and never by Hungarians, while *'train'* was mentioned 33 times by Jordanians and 45 times by Hungarians. The following quotes show examples from the Jordanian participants' narratives:

- *"Every morning, he wears his clothes and goes to the bus station to go to work."*
- *"I was waiting at the bus station, staring at people until the bus arrived so I can take it and go back home to watch TV and do nothing else"*
- *"I will miss Rose and my adventures, but it's fine I will meet them anyway tomorrow while I am waiting for the bus."*
- *"He was shocked with reality and got on the bus to go to his hated job".*

. This Event Schema reveals how a universal story frame—commuting to work via public transport—takes on different local flavors: bus-centered in Jordan versus train-centered in Hungary. It underscores the interaction between a prototypical cultural script and participants' everyday experiences.

Kissing scene (Event schema): Hungarian narratives foreground the kissing script, centering on the prototypical sequence of meeting, approaching for a kiss, and interruptions by the awakening from the daydreaming. Participants invoke the "kiss" moment repeatedly (15 instances, see table 3), staging the near-kiss as the climactic event in their renditions of the film's romantic subplot. Examples of Hungarian narratives are as follows:

- *"He pumped into a girl and in the next scene as they are sitting in a park, their lips get closer to kiss but then a train comes. "*
- *"And as they were going to kiss, we heard a train/metro coming. "*
- *"They fall in love and spend a romantic evening watching the sunset. They kiss."*

- *"At the bookstore, he accidentally bumps into a girl, whom he goes on a date, and as they are going to kiss, we hear a train/metro coming."*

Marriage (Event schema): Jordanian narratives emphasize the marriage script—the formal wedding proposal and ceremony sequence—even though marriage does not appear in the film itself. References to presenting rings, planning a life together, and performing marital vows recur (11 instances, see table 3), reflecting a culturally salient life-event schema. Examples from the Jordanians narratives are the following:

- *"When he decides to marry Anna and presents her with a wedding ring, he hears the sound of the loud train."*
- *"I clash with a girl and I feel very Shy. But after that we meet again and again and I found with her, my life partner. I really loved her and I hope all of these things are real. "*
- *"My name is Cosmo and I'm an ordinary man. I have met the girl of my dreams. Rosalinda... and we plan to get married and spend the rest of our lives together. "*
- *"I think she likes me. So, after several days I go to marry her and she agrees. "*

A notable aspect of our qualitative analysis is the distinct portrayal of romantic elements by Hungarian and Jordanian students, even though both groups watched the same silent film. While both acknowledge the protagonist's near-kiss moment, Hungarians center on the kissing script, whereas Jordanians emphasize the marriage ritual in their retellings.

Family role (Role schema): Jordanian narratives strongly foreground the Family Role in 12 instances, expressing duty to kin, intergenerational obligation, and emotional bonds, even though the film contains no family scenes. This focus is showed in the word frequencies (Table 3): Jordanian participants mention "family/parents" 9 times (vs. 0 for Hungarians), "father/dad" 8 times (vs. 1 for Hungarians. By contrast, Hungarian narratives with only 1 instance, they rarely invoke family as a direct influence on decision-making, reflecting a more individualist orientation. The following quotes form the Jordanians narratives illustrate the weight of tradition and the family's role in shaping life decisions:

- *"Classic life just like my father, grandfather, and my great grandfather spent their lives."*
- *"If my father was alive, he would be glad by seeing me today."*

- *"Then, when I start working, I am repaying my school loans and my parents' debts… Isn't life about giving and taking?"*

Illustrative Hungarian Quote:

- *"Providing for yourself and your family is important, but happiness is the fundamental need that we have to have."*

Societal Norms (Propositional schema): Both groups articulate Societal Norms with three instances for each group, showing shared beliefs about what society expects of individuals, but with different valences. Jordanian narratives frame norms as collective duties that can outweigh personal desires; Hungarian narratives frame norms as external constraints to be questioned or resisted. Illustrative Jordanian Quotes as follows:

- *"It is like the Tawjihi student who scored 99… but they study medicine because of their family and society rules."*
- *"Hamza decided to leave his home because of some family problems that made him go to another country to start a happy life away from problems."*

Illustrative Hungarian Quotes

- *"In the video, the man lives in solitude in order to fit in the society and follows norms that are constructed by his environment."*
- *"We should live life how we want to, but society requires you to provide in order to get something in return."*

Jordanian narratives present societal rules as binding obligations, reflective of collectivist schema-activation, whereas Hungarian narratives invoke the same propositional structures to critique and reframe them in service of individual freedom.

Friend Role (Role Schema): Although the silent film contains no scenes featuring friends, Jordanian participants independently invoked a Friend Role, a peer-based social script emphasizing companionship, support, and shared adventure. This schema appears 8 times in Jordanian narratives (vs. 0 in Hungarian, see table 3), underscoring a culturally salient peer dimension of collectivism distinct from family ties. Illustrative Jordanian Quotes:

- *"He did not live any family moments and did not enjoy with his friends."*

- *“He decided to take a break and went on vacation with his friends.”*
- *“The whole week after that I did not stop doing activities; swimming, sky diving, hiking, having fun with my friends, a lot of things. Actually I cannot count.”*
- *“I am grateful to my best friend as well. He was the one who convinced me to experience parachute jumping; as the idea of the book suggests.”*

The spontaneous activation of the Friend Role schema, despite its absence in the silent film, reveals how Jordanian storytellers project horizontal, peer-based relationships onto the narrative, highlighting a nuanced layer of collectivism focused on friendship and shared experience.

Gratitude (Emotion schema): Gratitude category captures both thankfulness and a positive acceptance of life’s imperfections. This unified Emotion Schema appears 14 times in Jordanian narratives versus 7 times in Hungarian ones (Table 3), highlighting Jordanian storytellers’ stronger emphasis on both expressions of thanks (often invoking “*Alhamdulillah*”) and finding joy in routine or hardship. *"Say Alhamdulillah (thank God) for this routine"*. Illustrative Jordanian Quotes:

- *“Say Alhamdulillah (thank God) for this routine.”*
- *"Sami accepts the fact of reality, and he goes to his work. He was happy, and he didn't feel sad or depressed"*
- *“Hamza didn't think about the consequences. It's true that each one of us wants to achieve happiness and a decent life free of problems. but happiness doesn't mean separation. It's rather transforming everything that's negative into positive. “*
- *“All of us want to be happy but there are so many things to consider before starting or doing something, the true taste of happiness comes after you have experienced Sorrow. So live in the present and make the most of it”*

Although gratitude expressions appear more frequently in Jordanian narratives, Hungarian participants nonetheless demonstrate a meaningful Gratitude schema. Their references to accepting life’s imperfections (“*Nothing will be perfect…*”) and finding relief in hopeful anticipation (“*Thomas felt bittersweet relief…*”) show that, even at lower frequency, Hungarian storytellers also value contentment and appreciation for what they have. See examples below:

- *"Nothing will be perfect, there are going to be obstacles in every part of our lives"*

- *"The main character isn't happy in his life, but someone else, who lives similar to him is.*
- *"Thomas felt bittersweet relief as he did. Even though his life is yet to be lived, he knew one day it will come to be. Until then, he will chase this haunting dream."*

4.2.4. Discussion

In exploring the narratives constructed by Hungarian and Jordanian bilinguals in response to a silent film, this study reveals the intricate interplay between cultural schemas and narrative construction within an EFL context. Silent films, with their emphasis on imagery over spoken dialogue, invite viewers to interpret stories through visual cues, engaging deeply ingrained cultural frameworks and fostering creativity (Paivio, 1990). Previous research has highlighted the pedagogical value of silent films in EFL environments, showing their positive impact on language proficiency, particularly in the areas of nonverbal communication and narrative skills (Kramsch, 2014; Sabri & Adiprabowo, 2022).

The results from the BLP and Text Inspector revealed that Hungarians had slightly higher English proficiency and demonstrated slightly greater lexical diversity, as indicated by higher MTLD and VocD scores. Although these differences were not statistically significant, they suggest that Hungarians tended to exhibit slightly more sophisticated language use.

LIWC analysis also highlighted some linguistic nuances between the two groups. The Hungarian narratives reflected a higher level of analytic thinking, indicating more structured and logical language, while Jordanian narratives scored higher in authenticity and emotional tone, suggesting a more emotionally expressive style. These findings suggest that while both groups shared similar linguistic profiles overall, their narrative styles were influenced by cultural differences. This directly addresses RQ 1 by revealing that Hungarian bilinguals rely more on 'Analytic Thinking' dimension, whereas Jordanian bilinguals score higher on 'Authenticity' and 'Emotional Tone,' indicating distinct cognitive, emotional, and social narrative styles.

The findings also demonstrate that while participants from both groups grapple with universal themes of independence and regret, the specific ways they construe social relationships, obligations, and life priorities diverge significantly, reflecting the foundational cultural schemas of their respective societies.

Shared Schemas: The Universal Drive for Autonomy and the Fear of Regret

These shared Independence and Regret schemas support H1**,** demonstrating that both Hungarian and Jordanian bilinguals draw on core, globalized cultural frameworks in their L2 narratives (RQ 2). Participants from both cultures articulated a powerful propositional schema that a fulfilling life requires self-determination and the pursuit of personal aspirations. This shared emphasis on autonomy and the corresponding emotional schema of regret over a life unlived suggests that these concepts may function as near-universal motivators for this generation of young adults, who are navigating globalized ideals of self-actualization (Chirkov, 2008). The Hungarian narratives framed this pragmatically, as a call to action to avoid a "*grey everyday lifestyle*," while Jordanian narratives often described it as an internal emotional struggle against a *"vortex of thoughts*."In line with the findings in the Jordanian group, Zubair (2023) found that younger generations in Jordan are becoming more individualistic, suggesting a gradual shift towards prioritizing personal goals over collective family and community welfare. Despite these stylistic differences, the underlying value placed on an authentic, self-directed life was remarkably consistent.

Divergent Construals of the Social World

While the desire for independence was universal, the narratives revealed profound cultural differences in how the social world is construed, highlighting the contrast between Hungarian individualism and Jordanian collectivism. This divergence was not just in the topics discussed but in the fundamental cognitive framing of events, a process that can be precisely described using the tools of Langacker's (1987, 2008) Construal Theory. The two groups consistently made different choices in figure-ground alignment, perspectivization, and the profiling of events, demonstrating how deeply ingrained cultural schemas guide linguistic and conceptual construction. This divergence speaks to RQ 3, that Hungarian and Jordanian bilinguals will differ in the construal and activation of cultural schemas along individualism versus collectivism lines.

- Construal of Relationships: kissing scene vs. Marriage A stark divergence appeared in the construal of romantic relationships. Hungarian narratives consistently foregrounded the Courtship schema, focusing on the immediate, experiential moments of romantic connection, such as the "kiss." This aligns with individualistic cultural patterns where personal affection and emotional connection are the primary precursors to a relationship (Medora et al., 2002). In stark contrast, Jordanian narratives invoked the Marriage schema, projecting formal life events like proposals and weddings onto the ambiguous scenes. Al-Shdayfat and Green (2012) state that Jordanian society is conservative concerning norms

relating to sexuality and public display of affection, and the discussion of sex-related issues openly or within families is often unacceptable and taboo. This reflects a collectivist framework where relationships are understood through their social function and formal status within the community (Hofstede et al., 2010). This pattern confirms H2 and H3**,** with Jordanians invoking a Marriage schema tied to communal status (collectivist), and Hungarians profiling Courtship as an individualized, emotional event.

- Construal of Social Obligation: Family and Societal Roles The most significant differentiator was the spontaneous activation of collectivist role schemas in the Jordanian narratives. Despite the absence of explicit cues in the TAT cards, Jordanian participants consistently invoked the Family Role schema, framing characters' decisions in the context of parental duty and intergenerational continuity. This was further reinforced by the activation of a Friend Role schema, highlighting a layer of horizontal collectivism centered on peer support. These findings powerfully illustrate how deeply ingrained these social schemas are, serving as a primary lens through which Jordanians interpret social scenarios. Hungarian narratives, by contrast, rarely invoked family or friends as central motivators, construing personal challenges as individual struggles. This aligns with the principle that in individualistic cultures, personal control is paramount, and decisions are made with less direct reference to familial or societal sway (Markus & Kitayama, 1991). These results also illustrate RQ 2**,** showing that Jordanian narratives activate family-duty role schemas far more often than Hungarian narratives, which focus on personal struggle.
- Construal of Environment: Mapping to questions asked in this study, the Influence of lived experience and the differing interpretations of the setting, a train station for Hungarians versus a bus station for many Jordanians, provides a clear example of how a universal Event schema (commuting) is customized by local, lived experience. This supports the cognitive principle that schemas are not abstract but are built from and modified by repeated, real-world encounters (Strauss & Quinn, 1997). The participants mapped the ambiguous visual data onto the most readily available and familiar script from their daily lives.
- Cultural Framing of Emotion: The Case of Gratitude: Even when an emotion like Gratitude was present in both groups, its expression was culturally framed. Jordanian narratives expressed gratitude more frequently and often through an explicit religious lens (e.g.,

"*Alhamdulillah*"), linking contentment to divine will and finding positivity in routine and hardship. This reflects a cultural schema where resilience and well-being are intertwined with faith (MacDonald, 2012). Hungarian narratives expressed a more existential or pragmatic form of gratitude, acknowledging life's imperfections and finding contentment in personal agency and the bittersweet pursuit of dreams. This suggests that while the underlying emotion is shared, its triggers and expression are shaped by distinct cultural worldviews.

Ultimately, these patterns suggest that for bilinguals producing narratives, the mental lexicon operates less like a dictionary and more like a dynamic mind map. The cultural context and the activated schemas determine which areas of the map light up, making certain words and concepts readily available for expression in the L2. The findings emphasize the dynamic nature of conceptual representations in bilinguals, which are shaped by linguistic, cultural, and social factors, as Pavlenko (2002, 2008) suggests. The narratives reflect cultural schemas that, while rooted in universal themes, are still culturally constructed and context-dependent (Strauss & Quinn, 1997).

These findings resonate with the Distributed Feature Model (De Groot, 1992), which suggests that bilinguals exhibit varying degrees of integration for concrete and abstract concepts, leading to distinct patterns of connectivity. Similarly, the cultural schemas evident in this study reflect the ongoing creation, modification, and application of cognitive structures as individuals navigate their cultural contexts (Bartlett, 1932; Rumelhart, 1980). By examining how bilinguals' narratives intertwine shared cognitive frameworks with culturally specific influences, this study provides valuable insights into the complex processes that shape narrative construction in EFL writing. These insights contribute to a broader understanding of how bilinguals negotiate linguistic and cultural boundaries in their storytelling. In line with H3**,** the way these schemas light up specific lexical fields (e.g. family-duty terms vs. autonomy lexis) confirms that L1 cultural schemas strongly guide L2 word choice, revealing bilingual mental-lexicon activation.

Emerging adulthood's hallmark openness and identity exploration serve as the perfect backdrop for this contrast: while young adults from Hungary and Jordan share common human aspirations for an independent and meaningful life, their cognitive and narrative approaches to achieving it are profoundly shaped by their cultural backgrounds. As emerging adults navigating both local and global identities (Arnett, 2000; Jensen, 2011), they wield English not only as an

academic tool but as a means of cultural accommodation that brings with it Anglophone norms of directness and individualism (Giles & Ogay, 2007). Within this developmental and sociolinguistic context, Jordanian narratives are consistently filtered through a collectivist lens—family, community, and social roles become the primary schemas for interpreting the social world, whereas Hungarian narratives reflect a more individualistic lens, foregrounding personal agency, romantic experience, and self-fulfillment. These findings underscore the dynamic nature of the bilingual mind, in which a shared second language becomes a canvas for expressing both universal motivations and deeply rooted, culturally specific ways of seeing and being in the world. In sum, Chapter 4 has answered RQ 1 through LIWC-22 metrics, RQ 2 through schema identification, RQ 3 through individualism–collectivism contrasts, and RQ 4 via L1–L2 lexical activation, confirming Hypotheses 1–4.

CHAPTER FIVE

STUDY 2: COMPARATIVE THEMATIC ANALYSIS OF TAT PICTURE CARDS NARRATIVES AMONG HUNGARIAN AND JORDANIAN BILINGUALS IN EFL CONTEXT

5.1. Chapter overview

Chapter 5 presents the results and discussion of Study 2, which conducts a scene-by-scene thematic comparison of English narratives elicited by four Thematic Apperception Test (TAT) picture cards. By employing TAT as a projective tool, bilingual university students from Hungary and Jordan project underlying cultural schemas, such as individualism, collectivism, and familial duty, into their stories, revealing both culture-specific and universal narrative patterns. This study further examines how English, as a global lingua franca, mediates these projections: participants draw on their L1 cultural-cognitive frameworks while utilizing English-specific construal strategies to articulate experience, demonstrating the dynamic interplay between language, culture, and cognition in an EFL context. This chapter tests study 2 Research Questions 1–4 and Hypotheses 1–4 (see Chapter 1, pp. 6–8) using TAT picture-card narratives. The chapter presents overarching thematic trends across all four cards before proceeding to a detailed, card-by-card comparison of Hungarian and Jordanian storytelling tendencies. Throughout, the discussion underscores how event, role, emotion, and propositional schemas—alongside Hofstede's individualism–collectivism and power-distance dimensions, drive divergent narrative framings of jealousy, conflict, familial duty, and social expectation. It also shows how the comprehensive methodological toolkit, combining thematic schema coding, quantitative schema-frequency comparisons, and construal and figure–ground analyses, provides a nuanced, holistic understanding of cross-cultural narrative construction in EFL writing.

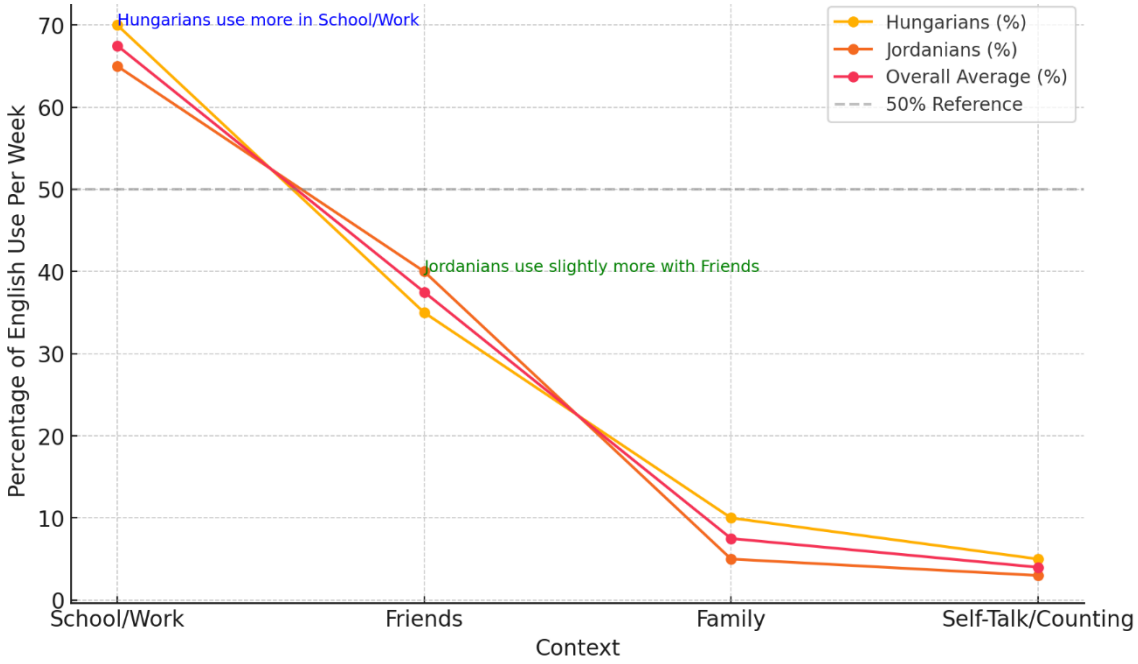
5.2. Results and discussion

5.2.1. BLP and Text inspector outcomes

BLP revealed that English use varied by context (Figure 13), with both groups using English most frequently in academic and professional settings (50%–70%). Social interactions with peers involved English to a lesser extent (25%–35%), while familial interactions and personal routines

(e.g., self-talk, counting) saw minimal English use (5%–10%). Hungarians reported slightly higher overall English usage (35%–50%) compared to Jordanians (40%–60%).

Figure 13. English language use across different contexts based on Bilingual Language Profile (BLP) results



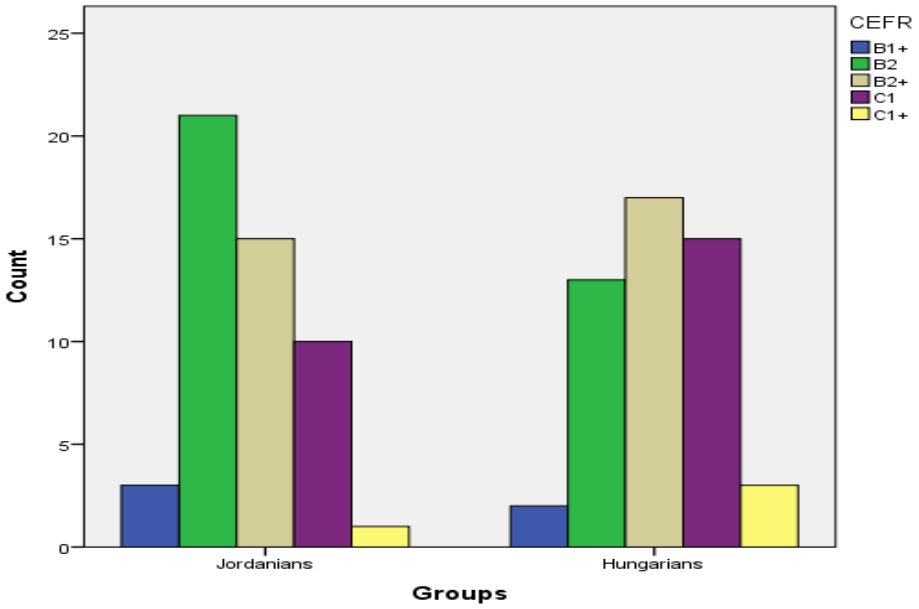
Jordanians reported slightly higher positivity in their attitude toward English, with a mean score of 4.45 compared to the Hungarian participants' mean of 4.29. They also exhibited a stronger attachment to their cultural heritage, scoring a mean of 5.72, whereas Hungarians scored an average of 4.28. Both groups reported moderate identification with English-speaking culture. Jordanians scored slightly higher with a mean of 3.66, compared to Hungarians at 3.32.

The CEFR level analysis using text inspector revealed that both groups predominantly fell between intermediate to advanced proficiency levels, ranging from B2 to C1. Jordanians showed a stronger presence at the B2 level, while Hungarians were more concentrated at C1 (Figure 14).

In terms of lexical diversity, the Hungarian participants demonstrated slightly higher scores compared to their Jordanian counterparts. VocD (Measure of Lexical Diversity) scores averaged 90.50 for Hungarians and 77.97 for Jordanians. Similarly, the MTLD (Measure of Textual Lexical Diversity) scores showed a mean of 80.68 for Hungarians and 64.49 for Jordanians. The results from the BLP and Text Inspector suggest that while Hungarians demonstrated marginally higher

lexical diversity and advanced vocabulary usage, both groups exhibited comparable English proficiency levels.

Figure 14. CEFR levels of narratives in Hungarian and Jordanian participants based on Text Inspector Analysis

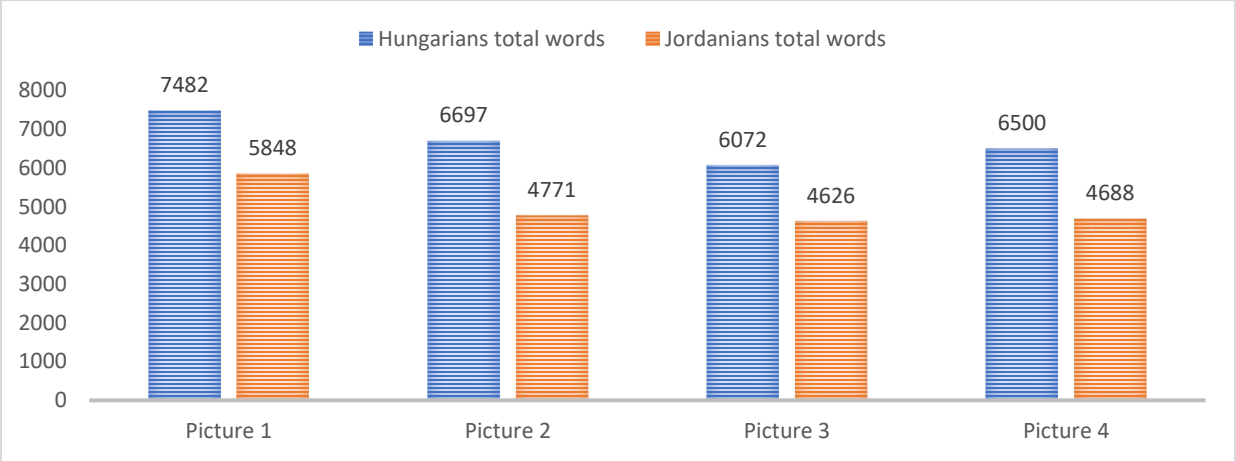


Importantly, these BLP and Text Inspector results serve as the linguistic foundation for the analyses conducted in both Study 2 and Study 3 (Chapters 5 and 6), ensuring that interpretations of participants' narratives are grounded in a clear understanding of their English proficiency and usage patterns.

5.2.2. General findings

The Hungarian participants consistently produced more words across all four images compared to their Jordanian counterparts (Figure 15). This variance in word count can be attributed to differences in narrative style, cultural storytelling conventions, or individual writing habits within each group.

Figure 15. Total word count comparison between Hungarian and Jordanian participants across four TAT picture cards



The frequency analysis of key words in Hungarian and Jordanian narratives reveals notable differences between the two groups (Table 6). 'Mother' appears most frequently in both datasets, with a higher occurrence in Jordanian narratives (231) compared to Hungarian ones (188), highlighting the central role of maternal figures in Jordanian storytelling. Conversely, 'Man' and 'Woman' are more frequently mentioned by Hungarian participants (142 and 130, respectively) than by Jordanians (92 and 74), suggesting a stronger emphasis on gender-related themes in Hungarian narratives. Words related to emotions and relationships, such as 'Love' and 'Marriage', appear more frequently in Jordanian texts (102 and 76) than in Hungarian ones (78 and 42), reflecting a greater focus on romantic and familial bonds. Additionally, Hungarians mention 'War' (23) far more than Jordanians (3), possibly due to historical or literary influences. Interestingly, 'Money' is significantly more frequent in Jordanian texts (38) than in Hungarian ones (13), indicating potential socioeconomic concerns in their narratives. The data also shows that 'Alcohol' appears far more in Hungarian responses (29) than Jordanian ones (4), which may be attributed to cultural and religious differences. These findings suggest that while both groups share common themes, the frequency and emphasis of these themes is different.

TA of the TAT stories revealed significant cultural divergences and convergences between the Hungarian and Jordanian participants. These differences are not only indicative of the distinct socio-cultural milieus in which the participants are embedded but also reflect the universal psychological experiences that transcend cultural boundaries. The analysis is organized around the

four picture cards used in the study, highlighting the dominant themes and schemas and comparing their manifestations in the two cultural groups.

Table 6. Frequency of key words in narratives: a comparison between Hungarian and Jordanian participants

	Word	**Freq. Hungarians**	**Freq. Jordanians**
1	mother	188	231
2	man	142	92
3	woman	130	74
4	time	93	62
5	home	88	49
6	love	78	102
7	life	73	99
8	husband	77	53
9	girl	70	70
10	child	67	45
11	family	64	60
12	son	51	53
13	friends	51	50
14	crying	51	41
15	father	44	64
16	daughter	43	63
17	marriage	42	76
18	couple	37	8
19	death	37	25
20	wife	36	45
21	happiness	36	30
22	parents	35	27
23	sadness	34	57
24	baby	25	29
25	tired	25	13
26	war	23	3
27	nanny	21	13
28	relationship	18	10
29	sister	17	14
30	school	19	21
31	brother	12	6
32	money	13	38
33	dreams	24	25
34	angry	9	14
35	grandmother	5	14
36	boy	15	13
37	divorced	4	13
38	sickness	8	8
39	alcohol	29	4
40	travelling	9	14
41	studying	16	30

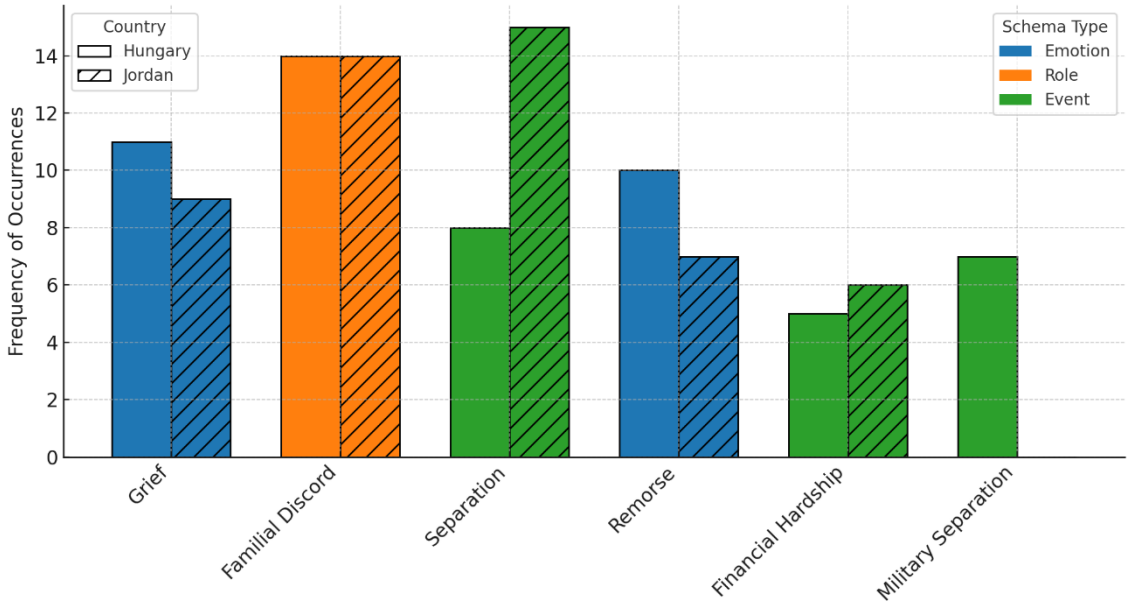
In the following sections, each of the four TAT picture cards will be examined individually, and the specific themes that emerged in response to each image will be discussed.

Intercoder reliability (ICR): Cohen's kappa was calculated and the agreement levels indicated substantial reliability across all 4 picture cards: Hungarian narratives $\kappa \approx 0.85$; Jordanian narratives $\kappa \approx 0.82$.

5.2.3. Picture 1 (Mother, Adult son)

The Hungarian and Jordanian narrators deploy six distinct schema-based themes in response to Picture 1 ("Mother, Adult Son") (Figure 16). Emotion schemas (Grief, Remorse) are shown in blue, Role schemas (Familial Discord) in orange, and Event schemas (Separation, Financial Hardship, Military Separation) in green. Hatched bars denote Jordanian frequencies, and solid bars Hungarian. This visualization highlights both shared patterns, such as equally high rates of familial conflict, and culturally unique emphases, notably Hungary's exclusive activation of the Military Separation script and Jordan's stronger focus on Separation as a communal rupture.

Figure 16. Theme frequencies by cultural group for picture 1 (Mother, Adult son) colored by schema type, hatched by country



Grief (Emotion schema): The Grief theme captures both the moment of bereavement and the ensuing emotional response as a unified narrative script (Table 7). In Hungarian narratives, grief is deeply tied to life-threatening contexts and private sorrow. A wartime backdrop dominates several stories (Stories 4 and 18). Even when framed around illness, the focus remains on intimate,

one-on-one anguish, (Story 5) illustrates how the revelation itself becomes a crucible of shared sorrow.

Jordanian narratives, while equally centered on bereavement, emphasize illness-related loss and collective mourning rituals. The death of a child to cancer, mourned by both father and grandmother (Story 25), and the shared sadness of a mother and son over a father's passing (Stories 26 and 29) foreground grief as a family-wide experience. This communal dimension is further underscored by the dinner held in memory of a deceased wife (Story 22).

Table 7. Quotes demonstrating the theme of 'Grief' in picture card 1.

Hungarian Narratives	**Jordanian Narratives**
Story 5: *"The mother reveals her cancer diagnosis while having a hard conversation with her son."*	**Story 25:** *"The father and grandmother grieve the loss of his young boy to cancer.*
Story 4: *"The mother mourns the loss of her son in World War II."*	**Story 26:** *"The mother and son are very sad because of the death of the father."*
Story 18: *"The mother goes through a very long grief while she waits for her son's return from the war, only to know that he is dead."*	**Story 29:** *"The mother and son receive a letter informing them of the father's death."*
Story 22: *"A man is visiting his mother-in-law and they are having dinner in memory of his deceased wife."*	

Across both cultural groups, narrators weave "what happened" and "how they felt" into a single, seamless Grief schema, but the Hungarian focus on private, contemplative sorrow contrasts with the Jordanian emphasis on collective expressions of mourning.

Familial Discord (Role Schema): Both Hungarian and Jordanian narratives enact a shared Familial Discord schema, where individual choices collide with parental or household expectations. Although the frequency is identical, the cultural coloring differs (see table 8). Hungarian accounts frame discord as assertions of personal responsibility and autonomy. Conflicts over partner choice (Story 3), job loss disappointing a parent on a celebratory evening (Story 36), or a nephew's gambling addiction leading to disinheritance (Story 49) all spotlight the child's right, and burden, to make and own their decisions.

Jordanian accounts cast similar clashes in terms of collective welfare and family honor. Decisions such as working abroad (Story 1) or selling the family home (Story 47) provoke strife because they threaten the economic and social cohesion of the extended family. Even partner-choice conflicts (Story 30) carry added weight as potential breaches of communal obligations. In

both cultures, this Role Schema of intergenerational tension reveals how storytellers negotiate the individualism–collectivism spectrum: Hungarians emphasize self-directed agency, while Jordanians underscore familial duty and group stability.

Table 8. Quotes demonstrating the theme of 'Familial discord' in picture card 1.

Hungarian narratives	**Jordanian narratives**
Story 3: *"The man's desire to marry a woman his mother disapproves of leads to a huge conflict between them."*	**Story 1:** *"Ramsey's mother initially disapproves of his decision to work abroad, then they argue a lot before she approves."*
Story 36: *"The son loses his job and disappoints his mother, creating tension during what was meant to be a dinner where they celebrate."*	**Story 47:** *"Adham's decision to sell their family home surprises his mother so much. It causes them to be separated."*
Story 49: *"The nephew's gambling addiction results in conflict with his aunt, ending in her decision to exclude him from her will."*	**Story 30:** *"John faces his mother's disapproval of his choice of a wife, creating a never-ending conflict."*

Separation (Event Schema): Both Hungarian and Jordanian participants activate a Separation script, representing the physical or emotional distance between family members, but their narrative emphases diverge (Table 9).

Table 9. Quotes demonstrating the theme of 'Separation' in picture card 1.

Hungarian narratives	**Jordanian narratives**
Story 6: *"The son arrives too late to say goodbye to his dying mother who suffers from cancer."*	**Story 1**: *"Ramsey's decision to travel abroad leaves his mother feeling abandoned by him."*
Story 47: *"The mother feels disappointed when her son, who lives far away, visits without bringing his wife and kids."*	**Story 4**: *"The young man decides to leave his grandmother in the village to work in the city."*
Story 48: *"The son experiences guilt for not visiting his mother frequently because he was living far away."*	**Story 46**: *"A man's decision to immigrate creates a lasting rift with his mother."*
Story 15: *"The man looks remorseful and guilty. It may be that he is going far away for a job opportunity leaving her behind or he enrolled in the military"*	**Story 48**: *"Gustav's choice to marry an American woman results in permanent separation from his mother."*

In the Hungarian narratives, separation is primarily a source of regret and guilt. Characters mourn missed goodbyes (Story 6), feel remorse for infrequent visits (Stories 48, 15), or express disappointment when distance prevents family gatherings (Story 47). Jordanian narratives, separation is tied to family obligations and relational integrity. Decisions to work or marry abroad (Stories 1, 4, 46, 48) are shown as breaches of duty that leave loved ones feeling abandoned or

permanently estranged. Here, the same Separation schema highlights the communal repercussions of distance, how physical departure can fracture intergenerational bonds and challenge collective cohesion.

Remorse (Emotion schema): Both Hungarian and Jordanian narrators convey a shared Remorse schema, reflecting self-reproach over past actions that violated familial or moral expectations. In Hungarian accounts, remorse centers on personal ambition and honesty: a son feels guilty for pursuing his own dreams against his mother's wishes (Story 12), laments a past argument that drove a wedge between him and his mother (Story 25), and regrets lying to spare his mother pain (Story 21).

Table 10. Quotes demonstrating the theme of 'Remorse' in picture card 1.

Hungarian narratives	**Jordanian narratives**
Story 12: *"The son feels very guilty for going after his dreams. He knows that his mother's wishes other things for him."*	**Story 13**: *"Alex feels helpless and guilty for being unable to cure his daughter's illness, burdened by her suffering."*
Story 25: *"The son regrets a past argument with his mom. She is expecting an apology since she is giving her back to him."*	**Story 22**: "*I want to say sorry to my mom. She felt sad because I raised my voice when I was talking about my job and my studies and my life in general."*
Story 21: "*The son feels guilty and regretted that he lied to his mom, but he did not want to hurt his mother with the truth."*	**Story 38**: *"The son reflects on how he harmed his mother and seeks ways to say sorry for his actions."*

Jordanian narratives, while fewer, tie remorse directly to the restoration of family bonds and caregiving responsibilities: a father is crushed by helpless guilt over his daughter's illness (Story 13), and sons seek to apologize and make amends after raising their voice or causing harm (Stories 22 and 38). Across both cultures, the Remorse schema integrates recognition of wrongdoing with a motivation to repair relationships, yet Hungarians emphasize internal moral conflict, whereas Jordanians foreground relational restoration.

Financial hardship (Event schema): Financial struggles were a recurring theme in 5 Hungarian narratives and 6 Jordanian narratives. reflecting the universal pressures of economic instability on families (Table 11). Participants from both cultures script a Financial Hardship event, families confronted by economic instability that precipitates difficult decisions and role shifts. Hungarian narratives focus on individual sacrifice and reliance on kin for support: Story 14 represents Adam's

anguish over a failed bakery and his inability to ask his parents for help, while Story 28 shows a son assuming the financial burden of caring for his mother.

Table 11. Quotes demonstrating the theme of 'Financial hardship' in picture card 1.

Hungarian narratives	**Jordanian narratives**
Story 14: *"Adam has financial problems and is owed for the bank after his bakery fails and struggles to ask his parents for help."*	**Story 11**: *"The family loses their money. His mom asked him to start finding a job and take the responsibility for the house's needs."*
Story 28: *"The son takes on the financial burden of caring for his mother."*	**Story 23**: *"Mark and his mother face financial problems after a failed treasure hunt."*
	Story 27: *"A son and his mother argue over selling their company to repay debts."*

Jordanian narratives portray family-wide economic crises and the activation of provider roles: Story 11 describes a son stepping into the primary breadwinner role after the family loses its savings, Story 23 recounts financial ruin following a failed venture, and Story 27 culminates in a heated debate over selling the family business to repay debts.

Across both groups, the Financial Hardship schema underscores how sudden or chronic monetary pressures trigger narrative sequences of problem recognition, role negotiation, and familial obligation—and yet the cultural emphasis diverges between personal sacrifice (Hungary) and collective provider duty (Jordan).

A unique theme in the Hungarian narratives: Military separation (Event schema): The theme of war and military service appeared exclusively in the Hungarian narratives, with 7 occurrences (Table 12). This Event Schema surfaces uniquely in Hungarian narratives, reflecting the cultural salience of wartime experiences.

Table 12. Quotes demonstrating the theme of 'Military separation' in picture card 1.

Quotes in the Hungarian narratives	**Story**
"a woman who just got the news about her son passing away in the Second World War."	4
"A family praying for years for their sons safe return from war which he finally does."	11
"A man is forced to leave his mother behind to join the army."	30
"Mrs. Smith children were living hours away and her husband died during the II World War."	32
"The photo was taken in the early years of the second World War. Having lost her husband in WWI."	46

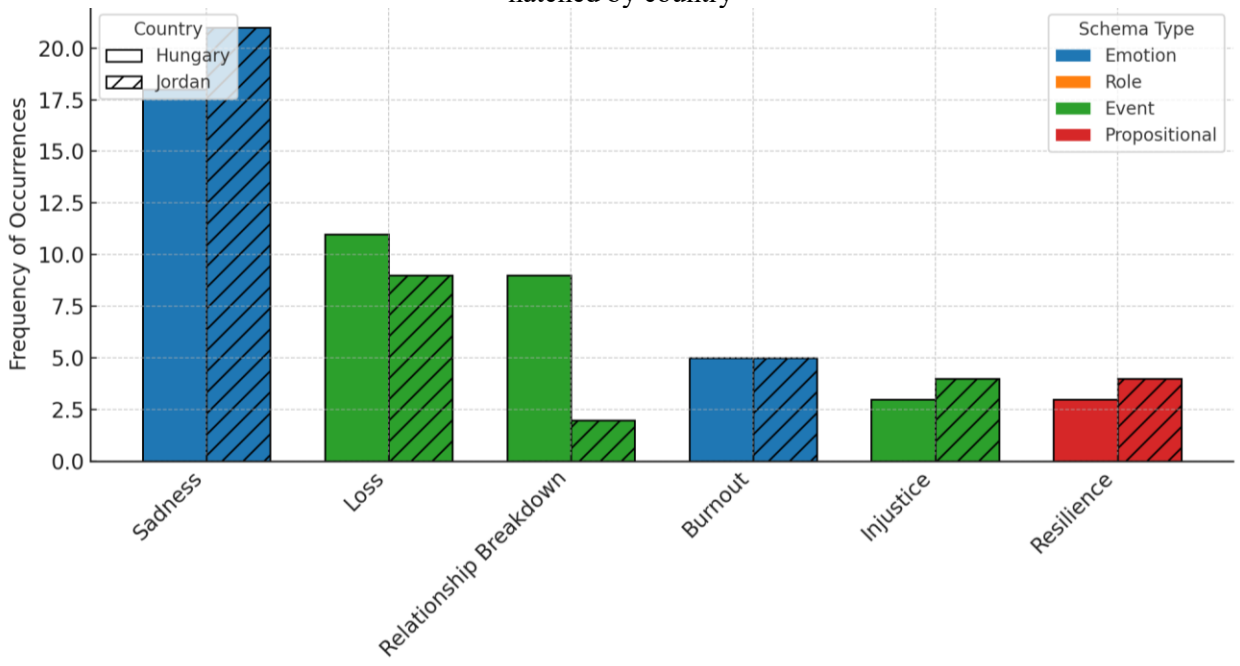
Participants script sequences of enlistment, deployment, and long waits for loved ones, stories of mothers receiving news of a son's death in WWII (Story 4), families praying for safe returns (Story

11), and the emotional toll of forced departures for military service (Stories 30, 32, 46). These narratives reveal a historically rooted schema that shapes how Hungarian storytellers construe and convey family bonds under the shadow of conflict.

5.2.4. Picture 2 (Defeated woman)

The clustered bar chart displays theme frequencies for Picture 2 (Figure 17), color-coded by schema type (Emotion in blue, Event in green, Propositional in red) and hatched by country. As can be seen, Sadness (Emotion) dominates both groups, while Loss (Event) and Relationship Breakdown (Event) are more prevalent for Hungarians. Burnout (Emotion) occurs equally, Injustice (Event) slightly more for Jordanians, and Resilience (Propositional) appears roughly the same. This visual summary highlights both shared and culturally specific emphasis across schemas and themes.

Figure 17. Theme frequencies by cultural group for picture 2 (Defeated woman) colored by schema type, hatched by country



Sadness (Emotion schema): Sadness emerged as the most frequent theme in narratives for Picture 2, with 18 occurrences in Hungarian stories and 21 occurrences in Jordanian stories. Participants from both cultures deploy a shared Sadness schema to script profound emotional distress, yet the

cultural coloring of these narratives diverges (Table 13). Hungarian accounts often root sadness in unfulfilled personal aspirations and individual pressures. Characters mourn lost dreams, Stories 2 and 34 show women abandoning artistic ambitions and turning to alcohol or resignation, and struggle under lifelong expectations imposed by parents (Story 41) or single-parent hardships (Story 6). Here, Sadness emerges as a private, introspective response to thwarted self-realization.

Table 13. Quotes demonstrating the theme of 'Sadness' in picture card 2.

Hungarian narratives	**Jordanian narratives**
Story 2: *"Lucy wanted to become a model but she faces rejection, Lucy broke into tears and went home. Just cried. And cried. All her dreams just gone."*	**Story 14:** *"She lost all of her hope because of how helpless, uncapable and Powerless she is. She lost faith in and now she is a dead soul"*
Story 34: *"Maria wished to be a painter, or a pianist but never did, she is a housewife now. she turns to alcohol to forget."*	**Story 16:** *"She wants her spirit back. Maybe she left her husband or her parents are dead. In the end her soul falls to anger and sadness."*
Story 41: *"Erica struggles with suffocating lifelong expectations so deeply rooted in her by her parents. She just cried until she felt better"*	**Story 25:** *"Ahmad feels depressed. His parents died and he stayed alone in his room and his bed. He isn't eating."*
Story 6: *"Eva deals with anxiety and depression as she has to take care of her children all on her own after their father abandoned them."*	**Story 3:** *"A woman is lonely and broken from a man and some problems with her family."*
Story 33: *"the beautiful girl masks her depression, appearing perfect, while secretly dealing with many problems including her bad step-mom."*	**Story 50:** *"Ahmad suffers mental health struggles after losing his father and becoming the head of his household at a young age."*

Jordanian narratives frame sadness as a relational and collective experience. Despair follows the loss of close kin—parents or a spouse—eroding one's spirit (Stories 16, 3) or thrusting a young man into isolation after bereavement (Story 25). Even when mental-health struggles arise in solitary spaces (Story 50), they are tied back to family obligations and communal roles.

Loss (Event schema): In both Hungarian and Jordanian narratives, the focal point is the event of losing a loved one—whether in wartime, illness, or violence. It appeared in 11 Hungarian narratives and 9 Jordanian narratives (Table 14).

Hungarian narratives reprise the wartime tableau: wives grappling with the confirmed deaths of their husbands in conflict (Stories 4 & 7), and a widow turning to alcohol as an escape from her new reality (Story 42). Here, the emphasis rests on the irreversible rupture that loss imposes on daily life—children left without a father, households thrown into uncertainty, highlighting the cultural salience of historical trauma.

Table 14. Quotes demonstrating the theme of 'Loss' in picture card 2.

Hungarian narratives	Jordanian narratives
Story 4: *"A wife grieves her husband's death in war. She is wondering how she will support her children alone."*	**Story 4:** *"Karen lost everything in one Moment of Truth. That was losing her father who she loved so much."*
Story 7: *"The wife is devastated by the loss of her husband in war, a tragedy from which she never recovers."*	**Story 22:** *"I lost my dad and I felt like my life ended. I'm still thinking right now, I'm really not going to see my dad ever again."*
Story 42: *"A woman turns to alcohol after losing her husband in war. She struggles to move on."*	**Story 33:** *"Alia from Gaza, occupied Palestine. She is crying and isolated from people. Her parents were dead in an explosion while they were sitting on the beach."*

Jordanian narratives center on the sudden absence of a father figure: daughters and sons confronting a world without their parent (Stories 4 & 22), and a young woman recounting her parents' deaths in a Gaza explosion (Story 33). These stories foreground how the loss event itself, often tied to broader socio-political forces, redefines family structure and identity.

Relationship Breakdown (Event schema): Participants from both cultures script sequences of relational rupture (infidelity, miscommunication, and abuse) that unfold as prototypical Relationship Breakdown (Table 15), with Hungarian participants addressing it more frequently (9 occurrences) than their Jordanian counterparts (2 occurrences). Hungarian narratives foreground betrayal and decisive action, for instance a wife's disbelief upon discovering her husband's affair (Story 10), an emotional collapse over a partner's cheating (Story 11), and a woman's resolution to divorce an abusive spouse after years of infidelity for her children's sake (Story 15). These accounts emphasize the moment of betrayal and the agency reclaimed through separation.

Table 15. Quotes demonstrating the theme of 'Relationship breakdown' in picture card 2.

Hungarian narratives	Jordanian narratives
Story 10: *"the woman finds out that her husband is having an affair. She was disappointed, sad and she couldn't believe that this is her life."*	**Story 1:** *"Laila struggles with her husband. She is the first woman in his life and he doesn't understand her needs."*
Story 11: *"we can see a woman who is just broken emotionally. Maybe her boyfriend cheated on her"*	**Story 39:** *"Areej discovers her fiancé has been cheating on her with her best friend, leading to a breakdown of trust and emotional turmoil."*
Story 15: *"A woman decides to divorce her abusive husband after experiencing years of infidelity for the sake of her kids."*	

Jordanian narratives, though fewer, frame breakdowns within marital role expectations: Laila's struggle with a husband who cannot meet her emotional needs (Story 1) and Areej's shock at her fiancé's double betrayal with her best friend (Story 39). Here, the focus is on the breakdown of trust and understood roles within the family unit, highlighting how relational scripts intertwine personal hurt with communal norms of loyalty and honor.

Burnout (Emotion schema): The theme of burnout emerged 5 times both in the Hungarian and Jordanian narratives (Table 16). Hungarian accounts focus on work–life strain: a single mother collapses after juggling two jobs and childcare (Story 25), a woman is too drained to perform household tasks after a long day (Story 36), and a nurse breaks down upon returning to a chaotic home after overtime (Story 47). These stories frame exhaustion as the outcome of competing professional and domestic demands. Jordanian accounts situate burnout within the caregiver role: a lone mother struggles yet finds inner strength to continue (Story 25), another mother of four is stretched to her limits providing for her family (Story 29), and a woman reflects on a decade in a detested job, marked by regret and fatigue (Story 46). Here, the emotional weight of sustained caregiving and unfulfilling labor is foregrounded.

Table 16. Quotes demonstrating the theme of 'Burnout' in picture card 2.

Hungarian narratives	**Jordanian narratives**
Story 25: *"A single mother working two jobs collapses from exhaustion after putting her children to bed."*	**Story 25***: "A mother feels overwhelmed by the responsibility of raising her children alone but finds the strength to continue."*
Story 36: *"A woman is so physically and mentally exhausted from her day that she is unable to complete basic tasks at home."*	**Story 29:** *"A mother of four children is physically and emotionally drained as she struggles to provide for her family."*
Story 47: *"A nurse breaks down in tears after returning home to a mess following an overtime shift."*	**Story 46:** *Lama reflects on spending ten years working in a job she hates, leading to feelings of exhaustion and regret.*

Injustice (Event schema): The Injustice theme captures narratives of power abuse and unfair treatment, though its focal points differ by culture, with 3 occurrences in Hungarian narratives and 4 in Jordanian narratives (Table 17). In Hungarian stories, injustice manifests within formal institutions: Helen's wrongful detention by corrupt officers who dismiss her pleas of innocence (Story 15); Peter's framing by his boss and realization that "the system failed me" as he sits in jail (Story 27); and a widow's futile court battle to reclaim her land after a neighbor bribes the judge

(Story 38). These accounts script an Event Schema of institutional betrayal, highlighting how legal and bureaucratic frameworks can become mechanisms of oppression rather than protection.

Jordanian narratives, by contrast, paint injustice in interpersonal and domestic contexts. A servant girl endures dehumanizing abuse and unpaid labor by her employer (Story 8), Sami labors fourteen-hour factory days "like machines" (Story 16), and a young bride is confined by her husband's demands (Story 40). Kayla's abandonment by a husband who married "for fun," leaving her to support her children alone (Story 7), further emphasizes relational injustice within family structures. Together, these stories map how Injustice, a culturally salient Event Schema, can arise both from corrupted institutions and from abuses of authority in everyday relationships.

Table 17. Quotes demonstrating the theme of 'Injustice' in picture card 2.

Hungarians	**Jordanians**
Story 15: *"Helen was taken by the corrupt officers for a crime she didn't commit. She screamed, 'I am innocent!' but nobody listened."*	**Story 8**: *"The servant girl was always told, 'You are worthless,' by her employer, who refused to pay her salary."*
Story 27: *"Peter was framed by his boss, who planted fake evidence. 'The system failed me,' Peter thought as he sat in jail."*	**Story 16**: *"Sami worked 14 hours a day in the factory. 'Why do they treat us like machines?' he wondered as his body ached from exhaustion."*
Story 38: *"She fought in court to reclaim her land, but the bribes her neighbor paid the judge left her powerless."*	**Story 40**: *"The young bride was ordered, 'You will not leave the house,' by her husband, who controlled every aspect of her life."*
	Story 7: *"Kayla married a man who is insensitive and only married her for fun and making love and then leaves her. She works to feed her children.*

Resilience (Propositional & Event Schema): Both Hungarian and Jordanian narratives activate a shared Resilience schema, weaving together aspirational goals (Propositional) and transformative actions (Event) to overcome adversity. Hungarian narratives included 3 occurrences, and Jordanian narratives featured 4 (Table 18). Hungarian accounts focus on individual ambition, for instance Nathaniel's dream of becoming a doctor to save lives (Story 9) and Irena's daily study rituals as she aspires to leave her small town (Story 21) illustrate belief statements, "one ought to pursue one's dreams", anchored in concrete steps toward future success.

Jordanian narratives emphasize collective perseverance: Mary refuses to be defined by job loss and launches her own business (Story 19), Yara rallies her children to rebuild after their home burns down (Story 33), and a shopkeeper repurposes his garage during a pandemic to keep his

family afloat (Story 50). These sequences script prototypical turnaround events, "setback, resourceful adaptation, and renewal", that enact resilience as a lived process.

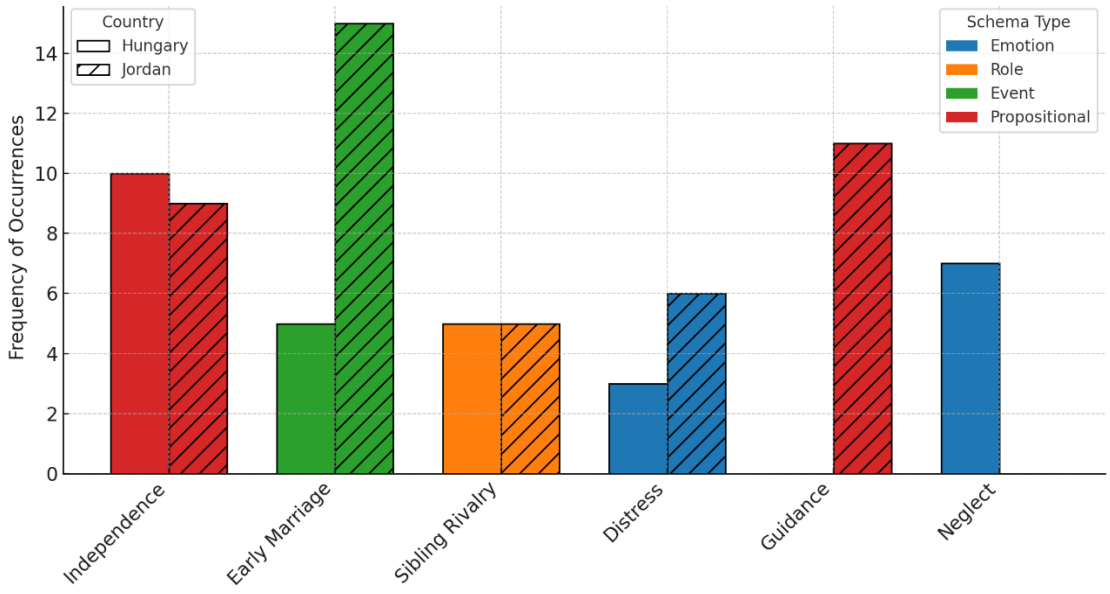
Table 18. Quotes demonstrating the theme of 'Resilience' in picture card 2.

Hungarians	**Jordanians**
Story 9: *"Nathaniel wanted to become a doctor to save lives."*	**Story 19**: *"Mary wiped her tears and said, 'I won't let this define me,' as she started her own business after being fired."*
Story 21: *"Every day, Irena stared at her books, hoping they'd bring her closer to her dream of leaving this small town."*	**Story 33**: *"After the fire destroyed their home, Yara told her children, 'We'll build a better one, together."*
	Story 50: *"He lost his shop during the pandemic, but he turned his garage into a delivery hub. 'We'll survive,' he assured his family."*

5.2.5. Picture 3 (Mother, Daughter, Doll)

Figure 18 maps Picture 3's thematic frequencies by cultural group, with themes colored by schema type and hatching denoting Hungary versus Jordan. Propositional themes (Independence, Guidance) appear in red, Event themes (Early Marriage) in green, Role themes (Sibling Rivalry) in orange, and Emotion themes (Distress, Neglect) in blue. This visualization highlights both shared scripts like Sibling Rivalry and Independence, and unique emphases such as Jordan's focus on Guidance (academic directives) and Hungary's emphasis on Neglect (emotional isolation).

Figure 18. Theme frequencies by cultural group for picture 3 (Mother, Daughter, Doll) colored by schema type, hatched by country



Independence (Propositional schema): Both Hungarian and Jordanian narratives activate an Independence schema, shared belief statements asserting personal agency over prescribed roles, yet they spot distinct cultural pressures against which autonomy is claimed (Table 19).

In Hungarian accounts, young women assert plans and ambitions in defiance of traditional expectations. Melissa's future-planning (Story 49) and Celia's rejection of high-society norms to play outdoors (Story 26) frame independence as a refusal to conform. Daughters refuse maternal prescriptions of housewifery (Story 43) and arranged marriage (Story 20), give emphasis to a propositional stance, "I will choose my own path."

Jordanian narratives similarly spotlight autonomy in the face of familial imposition. A daughter resists her mother's focus on domestic play in favor of personal interests (Story 3), another declines an arranged union with a wealthy suitor (Story 23), and Sarah openly rejects academic discipline to pursue dance (Story 24). Jana's decision to leave palace service for education (Story 29) further illustrates belief-driven self-determination.

Table 19. Quotes demonstrating the theme of 'Independence and individuality' in picture card 3.

Hungarian narratives	**Jordanian narratives**
Story 49: *"Melissa had ambition, plans for her own future. She wanted more than what her family had planned for her."*	**Story 3:** *"The mother continued teaching the daughter everything in order to have a good sense but the girl was thinking about what she's going to play with or when she's going to buy a new Barbie."*
Story 26: *"Celia defies her mother's teachings about high society. She likes playing outside with boys and horseback riding. She is a loud, mischievous child."*	**Story 23:** *"It's a story about the mother and the daughter. The daughter doesn't want the man, but the mother is trying to convince her because he is rich, and she will live with him as a princess."*
Story 43: *"The mother is trying to convince her daughter that being a housewife and staying at home every day is something desirable, but her daughter does not want this."*	**Story 24:** *"What a boring thing to do after school," the young girl Sarah shouted at her mother. Her mother told her you have to finish your homework before 4:00 p.m. but Sarah refused anything to do with studying. She wanted to be a dancer."*
Story 20: *"The mother was explaining to her daughter that when she grows up, she is going to get married to a man and bear his children, but the girl rejects that by preferring outdoor activities."*	**Story 29:** *"Jana refuses to continue serving in a palace to pursue education."*

By naming this theme Independence and classing it as a Propositional Schema, we foreground how both cultural groups articulate evaluative propositions about self-governance, even as the specific societal scripts they oppose differ.

Early marriage (Event schema): Both Hungarian and Jordanian participants frequently scripted the Early Marriage event, but with markedly different prevalence, 5 occurrences in Hungarian narratives versus 15 occurrences in Jordanian narratives, highlighting its greater cultural salience in the latter (Table 20).

Table 20. Quotes demonstrating the theme of 'Early marriage' in picture card 3

Hungarian narratives	**Jordanian narratives**
1. Story 47: *"A family plans for their young daughter to marry at 16 to secure and enhance their social and financial standing."*	**1. Story 7**: *" Celia, who is ten years old. Her father married her to a wealthy old man, Ben, who granted her father a piece of land in exchange for marrying his daughter. Celia became pregnant from him and gave birth to his child."*
2. Story 32: *"Her stepmother had to deal with another woman's child and married only for the money. So, she hated Lily as she thought of her: a burden. She made her marry young."*	**2. Story 11**: *"An early marriage was so common in the past, this young girl was married when she was 11 years old, to a man who had a lot of money and a huge wealth. Her life was destroyed when she married him and got pregnant."*
3. Story 10: *"The grandmother reacts with disgust to her young granddaughter, barely a teenager, yet a mother."*	**3. Story 12**: *"Young Sia was forced to an old man who was rich. Soon after her marriage she got pregnant and delivered a baby. The marriage took her childhood away."*
4. Story 7: *"The mother tries to teach her daughter about future responsibilities and early marriage to maintain their wealth. She will get married soon to keep her family rich and safe."*	**4. Story 33**: *"A mother convinces her daughter to accept an unsuitable marriage at a young age. At the end of the story, the girl commits suicide and her mother loses everything."*

In Hungarian accounts, early marriage is shown primarily as a strategic transaction. Families arrange unions for teenage daughters to secure social or financial standing (Story 47) or to preserve wealth across generations (Story 7). Such arrangements are shown as socially accepted norms, albeit with critical distance, as when a grandmother recoils at a barely adolescent mother (Story 10). Jordanian narratives portray early and forced marriages with far more traumatic consequences. Children as young as ten are given in marriage to wealthy older spouses (Story 7), leading to early motherhood and the erasure of childhood. These unions often culminate in devastating outcomes, pregnancy, despair, and even suicide when coercion turns unbearable (Story 33).

Sibling rivalry (Role Schema): The theme of Sibling Rivalry surfaces in both cultural contexts, with each group reporting 5 instances (Table 21). In Hungarian narratives, older sisters view their newborn brothers as an unwanted disturbance. In Stories 1 and 3, the arrival of "this annoying, crying thing"

sparks immediate resentment. By Story 50, that same sister "came to like him" once she held her brother, showing a shift from rejection to acceptance.

Table 21. Quotes demonstrating the theme of 'Sibling rivalry' in picture card 3

Hungarian narratives	**Jordanian narratives**
1. Story 3: *"Her parents have just arrived home from the hospital with this annoying, crying thing. She has never wanted a brother."*	**1. Story 18**: *"The elder daughter is jealous of her younger sister. The mother tries to make the elder daughter love her younger sister."*
2. Story 1: *"The worst day of her life. Her parents have just arrived home from the hospital with this annoying, crying thing. She has never wanted a brother; she resents the attention her new baby brother receives from their parents."*	**2. Story 26**: *"Lala, the youngest and previously the sole daughter of a wealthy family, always got whatever she desired without objection. Lala feels jealous of her new baby sister."*
3. Story 50: *"The daughter first was envious and didn't want a little brother as he got all the attention, but as she holds her newborn baby brother, she came to like him."*	**3. Story 41**: *"Sally experiences neglect from her father compared to her new baby brother."*

In Jordanian narratives, rivalry often stems from shifts in parental attention and is addressed through family dynamics. In Story 26, Lala—a once-pampered only child—becomes jealous when her new baby sister commands all the attention she previously enjoyed. In Story 18, the elder daughter's jealousy leads her mother to encourage love for the younger sibling. In Story 41, Sally feels neglected as her father's focus moves to her baby brother. These accounts stay true to participants' own words, mapping a Role Schema of Sibling Rivalry that unfolds either as personal envy or through parental mediation in response to changing family attention.

Distress (Emotion schema): Both Hungarian and Jordanian narratives articulate an Emotional distress schema, tracing the psychological weight of life's upheavals through personal and familial crises, with the Hungarian group presenting 3 occurrences and the Jordanian group documenting 6 occurrences (Table 22). In Hungarian accounts, the sadness emerges from loss of autonomy and looming responsibilities. A 90-year-old grandmother falls into a "light depression" when she can no longer attend the theater (Story 6), while a young girl, Blair, feels "very lonely" despite material compensations from absent parents, and the arrival of a newborn brother worsens her isolation (Story 9). Another daughter "breaks down emotionally" at the thought of caring for a baby she fears she cannot support (Story 13). These stories highlight introspective despair tied to aging, loneliness, and the anticipation of overwhelming duties.

On the other hand, Jordanian narratives cast sadness and distress against a backdrop of marital and relational instability. A young woman feels "very sad" and trapped in a marriage she never chose (Story 4). Ella rides an "emotional rollercoaster" because of her parents' troubled union (Story 22). In another family, a daughter caught in her parents' conflicts believes "there is no way to solve it" apart from divorce (Story 46). These narratives underscore sorrow as a response to fractured relationships and the pain of disrupted family bonds.

Table 22. Quotes demonstrating the theme of 'Distress' in picture card 3

Hungarian narratives	**Jordanian narratives**
Story 6: *"A 90-year-old grandmother who loves theaters admits that she became too old to go to the theater. She has fallen into a light depression and her whole family was worried."*	**Story 4**: *"The mother is trying to talk to her, but the girl is feeling very sad, and I think she was unhappy because she married someone she didn't want."*
Story 9: *"Blair feels very lonely as her parents replace their absence with gifts. The arrival of a new baby brother who she knew she was going to care for all on her own made her feel worse."*	**Story 22**: *"Ella deals with the emotional rollercoaster from her parents' troubled marriage."*
Story 13: *"The girl breaks down emotionally when she has a new baby who she knew is going to struggle and she will not be able to take care of him."*	**Story 46**: *"A little sad daughter comes to her mother after many conflicts with her husband and she wants to divorce, and she said there is no way to solve it."*

A unique theme in the Jordanian narratives: Guidance (Propositional schema): The following theme, showing 11 times in the narratives, primarily focuses on academic expectations set by parents and their influence on children's daily lives (Table 23).

Table 23. Quotes demonstrating the theme of 'Guidance' in picture card 3.

Quotes in the Jordanian narratives	**Story**
"The mother looks like she's trying to convince her daughter to study, but the girl prefers to play with her doll rather than listen."	2
"this woman has a daughter, and she said to her daughter to be a good girl and to take care of her studies."	6
"The single mom Rose is trying to talk to her little daughter and trying to make her understand that she isn't allowed to hit the kids and make fights with her friends at school."	45
"Her mother tries to convince hard to live her dolls and go to study because you have an exam."	30

In these Jordanian narratives, parents issue guidance, normative directives about appropriate behavior and priorities, reflecting a culturally shared belief in the primacy of academic success. Across 11 instances, mothers counsel daughters to forsake play (Story 30), manage school conflicts

(Story 45), and uphold good student status (Story 6). One child's preference for play over study ("…the girl prefers to play with her doll rather than listen" – Story 2) underscores the tension between personal interests and parental expectations. This theme is aligned with Propositional Schemas in a way that it captures how these narratives encode parental advisories as shared belief statements, "one ought to value education and self-discipline", which shape children's daily lives and aspirations.

A unique theme in the Hungarian narratives: Neglect (Emotion schema): This theme highlights instances of emotional detachment and social isolation, clearly present in narratives from the Hungarian group in 7 instances (Table 24).

Table 24. Quotes demonstrating the theme of 'Neglect' in picture card 3.

Quotes	Story
"*The girl always feels neglected due to her parents' constant absence, impacting her emotional well-being as she feels lonely and abandoned."*	17
"As her family moves frequently, the young girl finds it challenging to form lasting friendships and feeling isolated in each new city."	22
"The young lady, raised by a caretaker instead of her busy wealthy parents, experiences neglect. this leaves her feeling isolated and uncared for."	44

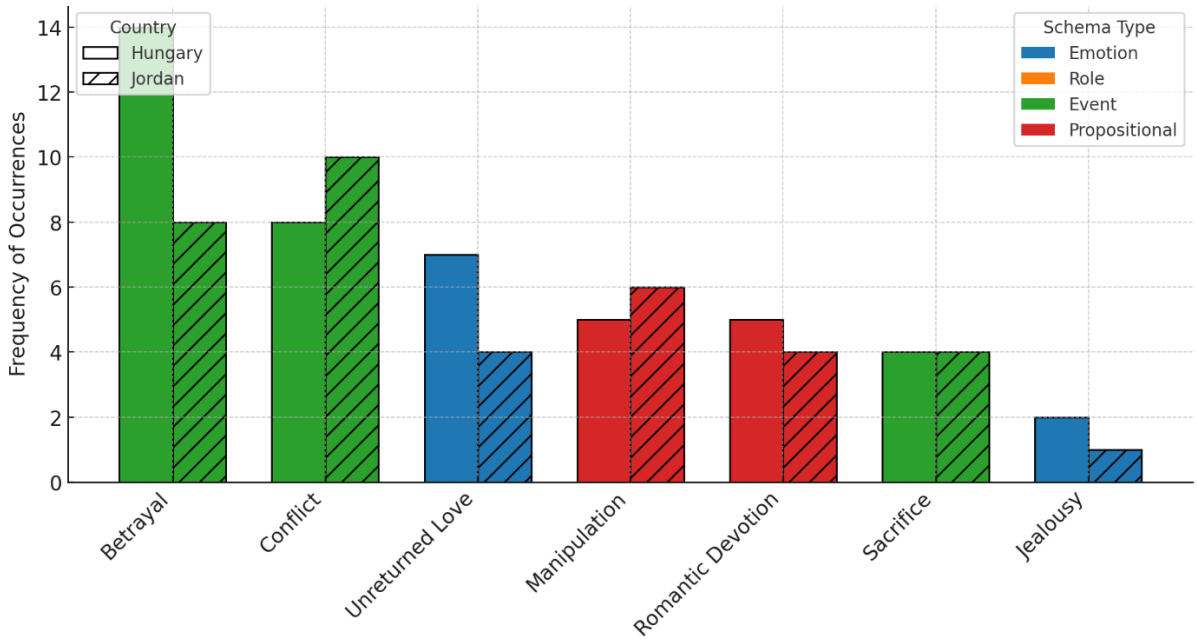
In Hungarian narratives, this emotion schema (Neglect) captures characters' experiences of emotional abandonment and social isolation resulting from familial circumstances. Across seven instances, storytellers show how parental absence and lifestyle instability erode children's sense of belonging and well-being. In Story 17, a girl "feels neglected" by constantly absent parents, leading to loneliness and distress. Story 22 shows a child uprooted by frequent moves who struggles to make friends and feels isolated in each new city. Story 44 portrays a young woman raised by a caretaker while her busy, wealthy parents remain distant, leaving her emotionally uncared for. This theme emphasizes an Emotion Schema of detachment, where lack of parental engagement triggers deep-seated feelings of abandonment, even when no overt crisis event occurs.

5.2.6. Picture 4 (Hot couple)

Picture card 4 presents seven key themes and their schema types (Figure 19): Event schemas in green (Betrayal, Conflict, Sacrifice), Emotion schemas in blue (Unreturned Love, Jealousy), and Propositional schemas in red (Manipulation, Romantic Devotion). Solid bars denote Hungarian counts, and hatched bars Jordanian. This visual highlights Hungary's strong emphasis on Betrayal,

while Jordan places relatively more weight on Conflict and Manipulation, and both groups mark Unreturned Love and Sacrifice as significant emotional and event scripts.

Figure 19. Theme frequencies by cultural group for picture 4 (Hot couple) colored by schema type, hatched by country



Betrayal (Event schema): This theme occurs 14 times in Hungarian narratives and 8 times in Jordanian ones, signifying a greater focus on this theme within the Hungarian group (Table 25).

Table 25. Quotes demonstrating the theme of 'Betrayal' in picture card 4

Hungarian Narratives	**Jordanian Narratives**
Story 5: *"The woman loves her husband deeply, but he only married her because she got pregnant. Secretly, he is in love with his colleague and often stays at her place, which makes his wife angry."*	**Story 8:** "*Alex likely saw his wife, Leila, with another man. Leila tried to explain and tell the truth, insisting she didn't cheat. But Alex didn't believe her and chose to end their relationship."*
Story 18: *"Driving home, the husband catches his wife in bed with another man. Staying calm, he leaves for a few days. Still disgusted, he returns to pack his belongings and leave forever."*	**Story 23:** "*Este, a loving housewife, adored her husband John, unaware he was cheating with his assistant, Clara. She saw them kissing and divorced him. John regretted losing her."*
Story 20: *"Being with Margot was never easy. Carlos, who had dated her for years, knew this. She loved fights, and passion. After revealing her cheating, they hadn't seen each other."*	**Story 34:** "*The loving wife adores her husband but He thinks of other women. she discovers the truth, but she convinces herself he'll change and chooses to stay with him forever."*
Story 42: *"A woman cheats on her fiancé. Suspicious for a while, he pretends to leave for work and catches her in the act. She tries to calm him and convince him it's not what it seems."*	**Story 47:** "*Sally's world centered on Ahmad. But while he worked abroad, she lived freely and spent time with another man. Ahmad stayed silent, wondering what he did wrong."*

In Hungarian narratives, betrayal often unfolds through direct confrontation and decisive separation. Husbands uncover infidelity (Stories 18 & 42) and respond by calmly departing, packing belongings or immediately ending engagements. Women are more frequently cast as the unfaithful partners (Stories 5, 20, 42), highlighting a reversal of traditional gender expectations. These sequences emphasize the eventful rupture of trust and the protagonist's agency in terminating relationships.

Jordanian narratives, while also featuring decisive endings (Story 23), more commonly underscore emotional negotiation and relational endurance. Wives insist on their innocence and attempt reconciliation (Story 8) or choose to remain in the marriage despite betrayal (Story 34), reflecting societal pressures to preserve marital bonds. Story 47 portrays a silent husband left to question his own failings as his wife's actions go unspoken, showing subtler depiction of trust's erosion. This theme foregrounds the pivotal moment of infidelity itself, "the trusted partner violates the bond", while exposing how Hungarian storytellers privilege swift separation and Jordanian storytellers navigate complex emotional and cultural negotiations in the aftermath.

Conflict (Event schema): This theme appears with comparable frequency in both groups, with 8 occurrences in the Hungarian narratives and 10 in the Jordanian ones (Table 26). Both groups script the Conflict event, moments of heated dispute or misunderstanding in romantic relationships, yet they differ in focus.

In Hungarian accounts, conflicts often lead to personal reflection or transformation. For example, a woman's apology and declaration of love in Story 19 becomes the turning point that convinces her partner to stay. Story 26 traces a longer arc: a couple's growing emotional distance culminates in separation, but later both find happiness, she remarries and builds a lasting partnership. Other stories (e.g. Story 2) represent immediate tensions, gambling versus quality time, that force characters to confront their priorities. Jordanian narratives, by contrast, emphasize preserving family harmony through conflict resolution. In Story 11, a wife calmly urges her furious husband to report an employee's theft rather than escalate the situation. Stories 33 and 18 show spouses working to restore trust after perceived wrongs—she promises to change, and in another case, a wife reviews security footage to confirm her husband's fidelity, leading to reconciliation. These sequences frame conflict not as a path to separation but as an opportunity for reaffirming commitment.

Table 26. Quotes demonstrating the theme of 'Conflict' in picture card 4

Hungarian Narratives	Jordanian Narratives
Story 2: *"Harold spent most of his time and money on pints and gambling, while Barbara hoped for a nice evening with her fiancé. She tried to convince him to stay, but it only made him angry. "*	**Story 2:** *"This young lady appears to be stopping her husband from starting a fight, likely because a man looked at her in a way that made him angry."*
Story 19: *"The couple argued, and the man wanted to leave. The woman tries to convince him to stay, expressing her deep love and apologizing for saying hurtful things."*	**Story 11:** "*I see a good wife trying to calm her furious husband. He's enraged because an employee stole from his shop, she urges him to only report the theft to the police."*
Story 48: *"This couple has been together for years. they're having a disagreement. The man isn't listening and avoids looking at her. Perhaps he has to leave for work, and she's trying to make him stay to avoid a painful goodbye."*	**Story 33:** "*The woman likely made a mistake, and often refused her husband's demands, behaving badly all the time. He decided to leave and marry someone else. Now, she's trying to convince him to stay, promising to change."*
Story 26: *"She wanted more affection, but he claimed to be busy and tired after work. Over time, love seemed gone. Years later, the man came home to find his wife gone with a loving man. They married, had two children, and their love remained strong as they grew old together."*	**Story 18:** "*Rick's coworker, Laura, tried to get close to him, but he pushed her away, saying he loved his wife. His wife saw them thinking he cheated. She demanded a divorce, but after checking the cameras, she believed him and they reconciled for their son."*

Unreturned love (Emotion schema): This theme appears more frequently in the Hungarian narratives (7 occurrences) compared to the Jordanian ones (4 occurrences). While both groups explore the emotional complexities of romantic disconnection (Table27).

Table 27. Quotes demonstrating the theme of 'Unreturned love' in picture card 4

Hungarian Narratives	Jordanian Narratives
Story 8: *"Andrew and Greta have been together for a while, but Andrew no longer has feelings for her. For months, he's come home late without explaining, while Greta, still in love, tries to save the relationship."*	**Story 15:** *"The woman's heart is full of love, but the man feels none. They seem married with kids, but that doesn't guarantee love or passion. Their life is filled with stress, mistrust, and a lack of compassion."*
Story 10: *"She was deeply in love, obsessed, yet knowing he'd never be hers. She begged him to stay, but he always took his coat, kissed her goodbye, and left."*	**Story 16:** *"The most beautiful girl in the world, is desired by many men, but none are the one she wants. The man she loves doesn't like her. He sees her as childish and unfit to care for his kids."*
Story 47: *"In New York City, George met Stella at a famous club. He fell in love, but she felt nothing. Later, George became a wealthy businessman. She acted like a loving girlfriend but cared only about his money."*	**Story 24:** *"She loves him, but he can't look at her because he's drawn to another girl. He's tired of her, feeling she doesn't care about him. His eyes show exhaustion and boredom. "I can't stay with you," he says."*

Hungarian stories stress the individual's emotional struggle. Greta's relentless efforts to salvage her relationship despite Andrew's withdrawal (Story 8) and a woman's obsession with a

love she knows will never reciprocate (Story 10) underscore personal vulnerability and longing. Another account in New York City (Story 47) shows love supplanted by material motives: Stella fakes affection for George only because of his wealth, illustrating how fading emotions can be masked by opportunism.

Jordanian narratives, while fewer, this theme within relational stress and societal expectations. In Story 15, a long-married couple's lack of passion is woven into marital mistrust and daily pressures. Story 24 portrays a man's exhaustion and boredom, "I can't stay with you", as a direct consequence of emotional detachment. A third tale (Story 16) explores how unfulfilled desire clashes with cultural norms about maturity, as the man deems the woman unfit for family roles.

Manipulation (Propositional and Event Schema): The theme of manipulation, occurs five times in Hungarian narratives and six times in Jordanian narratives (Table 28). Across both cultures, narratives of manipulation spotlight individuals leveraging emotional or financial power to bend another's will, yet cultural inflections shape who wields control and how.

Table 28. Quotes demonstrating the theme of 'Manipulation' in picture card 4

Hungarian Narratives	**Jordanian Narratives**
Story 34: *"Julie had many gentlemen chasing her, eager to steal a kiss. Her confidence drew them in. Yet, they never stayed, and she never actually liked them, just wanted a distraction. Then she met Adam. She thought she'd found "the one." after two years, Adam grew cold and distant and left her."*	**Story 12:** *"A deceitful woman manipulates a wealthy, vulnerable man into falling in love, steals his money, and frames him for theft, landing him in jail. While he suffers, she enjoys his wealth."*
Story 36: *"George fell for Stella, but she only cared about his money. He bought her gifts, and they got married. Stella manipulated him, acting loving while exploiting his wealth. After the wedding, George realized her true intentions and they separated."*	**Story 42:** *"Katey, the girlfriend, is so controlling and crazy. She tells Wilson that if he leaves her and returns to his wife, she is going to commit suicide."*
Story 49: *"A young couple in their late 20s plan on robbing a bank. They plan to take new identities and escape to a remote country. While the man seems like the leader, the woman secretly controls everything, manipulating him into thinking he's in charge."*	**Story 38:** *"This picture reminds me of men exploiting their wives, like Corvino in Volpone, who offers his wife Celia to Volpone in exchange for becoming his heir, betraying her trust for greed."*

In Hungarian accounts, manipulation often takes the form of calculated opportunism. Stella marries George solely for his wealth, pretending to care for him until he uncovers her true motives (Story 36), and a resourceful woman secretly orchestrates a bank heist while convincing her partner that he leads the operation (Story 49). Julie, pursued by admirers she never truly desired, lures

Adam only to face his emotional withdrawal, illustrating how distraction can become a tool of subtle control (Story 34).

Jordanian narratives frame manipulation within intimate betrayals and stark power imbalances. A deceitful woman ensnares a vulnerable man, stealing his money and framing him for theft, while she luxuriates in his downfall (Story 12); another uses the threat of self-harm to bind her partner to her side (Story 42). Stories also recall classic tales of spousal exploitation, where a husband trades his wife for social gain, showing how manipulation can intersect with gendered expectations (Story 38). This theme encompasses both the eventful scripts of control, schematic sequences of deceit and coercion, and the underlying propositional beliefs that justify such power plays.

Romantic devotion (Propositional & Emotion Schema): The theme of love and romantic idealism appears five times in Hungarian narratives and four times in Jordanian narratives. Both Hungarian and Jordanian narratives celebrate Romantic Devotion, though they frame it through different cultural lenses. (Table 29).

Table 29. Quotes demonstrating the theme of 'Romantic devotion' in picture card 4

Hungarian Narratives	**Jordanian Narratives**
Story 1: *"This picture feels like a 1930s or 40s Hollywood movie. It shows a hot-headed, handsome man ready to do something brave and dangerous, while a gentle, beautiful woman, hopelessly in love, tries to stop him."*	**Story 39:** *"Two recently married young couples were living happily. At a wedding, while dancing, the lady thought about how lucky she was to have met and married such a wonderful man."*
Story 43: *"You're a dreadful man," she sobbed. "Why risk your life?" He replied, "It has to be me. I love you." After a final kiss, she collapsed, heartbroken, as he walked toward certain death."*	**Story 6:** *"George and Christine, who've loved each other since high school, are now married with three kids, Mary, John, and Fatima. They've kept their promise to stay together, providing love, kindness, and a good life, hoping for their children's success."*
Story 4: *"Jenny was independent until her 30s. But when she met John, her life changed. She felt she could finally rely on someone, even in tough times. She saw a bright future with him. Today, they're still together, living happily ever after, just like in a fairy tale."*	**Story 4:** *"The man I love made me feel safe; seeing him once a month meant everything. He stole my eyes, they spoke when he was near. This isn't just my story; it's the story of millions, built on true feelings and unconditional love."*

Hungarian stories often present love through the lens of personal transformation, sacrifice, and idealistic devotion. For example, Story 1 compares a romantic moment to a 1930s or 40s Hollywood movie, idealizing a bold, courageous man and a gentle, devoted woman. Story 43 portrays self-sacrifice as the ultimate expression of love, with a man walking toward certain death while his partner is left heartbroken. Story 4 frames love as a transformative force, showing how

a previously independent woman found strength and joy in her relationship, resulting in a "*happily ever after.*"

Jordanian narratives root romantic idealism in marital partnership and family. A newlywed bride revels in gratitude for her "wonderful man" as they dance at their wedding (Story 39), while long-married high-school sweethearts continue to honor promises of kindness and support for their three children (Story 6). One woman describes her monthly reunion with the man "who made me feel safe," calling their story "the story of millions" built on "unconditional love" (Story 4).

Romantic Devotion is aligned with both Propositional Schemas (ideal beliefs about love) and Emotion Schemas (profound affect), we capture how participants from both cultures script love as a source of transformation, loyalty, and shared purpose, whether through cinematic sacrifice or family-centered commitment.

Sacrifice (Event schema): In Hungarian accounts, sacrifice often unfolds as an individual's renunciation for love or survival (Table 30).

Table 30. Quotes demonstrating the theme of 'Sacrifice or difficult decisions' in picture card 4

Hungarian Narratives	**Jordanian Narratives**
Story 35: *"The man loved the woman but knew he couldn't be with her. Married and facing war, he feared leaving her heartbroken when he inevitably dies at war."*	**Story 10:** *"Rashid marries another woman due to family pressure, despite loving his first wife who can't have children."*
Story 7: *"The wife talks seriously, but her husband seems uninterested. At dinner, a rude waiter upsets him, but she calms him, and they leave quietly. They never return, and he never learns the waiter was her ex-husband."*	**Story 35:** *"A couple married since 1998 seemed perfect until the husband hid a secret from his wife. When she found out, she supported him and tried to fix things, while he regretted his mistake and apologized."*
Story 32: *"Lucy, a busy nurse, grew depressed from her long shifts and lack of love. Lucy decided to sacrifice her career and became a model. Her decision led her to meet a passionate artist she fell in love with, bringing her the joy she had been missing."*	**Story 25:** *"Mary and John have been married since 1988; they loved each other deeply but couldn't have children. When a friend suggested adoption, they adopted a boy named Jack, raised him with love."*

A soldier, already married, fears enrolling for war because he cannot bear to leave his beloved stranded and heartbroken (Story 35). A wife conceals her past relationship at dinner, smoothing over the hurt for the sake of marital harmony, even though her husband remains unaware of the truth (Story 7). A nurse, weary of grueling shifts and emotional isolation, abandons her medical career to pursue modeling and, ultimately, the love she'd been missing (Story 32). Each story stages a turning point where personal fulfillment is weighed against loyalty or well-being, highlighting the individualist script of self-directed sacrifice.

Jordanian narratives, by contrast, locate sacrifice within a collective and familial framework. Rashid marries a second wife under family pressure—despite loving his first wife who cannot bear children—demonstrating duty to lineage over personal desire (Story 10). A long-married couple chooses adoption when childbearing proves impossible, welcoming a son as their shared act of love (Story 25). Elsewhere, a wife forgives her husband's hidden transgression and works to rebuild trust, prioritizing marital unity over retribution (Story 35). These sequences center sacrifice as an expression of communal responsibility and relational restoration.

Jealousy (Emotion schema): This final theme appears clearly in two Hungarian stories and only one Jordanian story, though with differing contexts (Table 31). In Hungarian accounts, jealousy is internalized and plays out within relatively stable relationships. In Story 25, a partner's cold indifference, his silent stare amid her frantic attempts for attention, fuels her insecurity, as evidence up on how wealth and emotional distance can provoke suspicion. Story 46 explores jealousy in a long-standing arranged marriage: the wife, after a decade of dutiful partnership, lashes out in resentment when her husband's longtime affair comes to light, revealing how suppressed emotions in constrained unions can erupt into conflict.

Table 31. Quotes demonstrating the theme of 'Jealousy' in picture card 4

Hungarian Narratives	**Jordanian Narratives**
Story 25: *"The man looks shocked, possibly by another woman's presence, while his jealous partner seeks attention. He seems indifferent, staring at her, his wealth likely fueling her insecurity."*	**Story 7:** *"Elisa, forced to marry controlling jealous John, was locked at home. When a passerby gave her a handkerchief, John accused her of betrayal, punished her brutally, and threatened her family. The picture shows her begging him to spare them."*
Story 46: *"This couple has been in an arranged marriage for over 10 years, living separate lives but maintaining appearances. When the wife grew jealous of her husband's longtime lover, frequent fights and resentment erupted, possibly because she had started to fall for him."*	

In contrast, the single Jordanian narrative, Story 7, portrays jealousy as an extension of control and domination within a patriarchal framework. Elisa, forced into marriage with a controlling and jealous husband, experiences extreme emotional and physical abuse when he interprets an innocent act, a passerby offering her a handkerchief, as betrayal. The story captures the toxic interplay between jealousy and power.

5.2.7. Discussion

By examining the recurring themes of jealousy, emotional conflict, familial relationships, and societal expectations, the findings underscore the critical role of cultural schemas and social norms in shaping how individuals interpret and articulate experiences in their L2. While both groups exhibited notable similarities due to their shared age range, educational background, and exposure to the same visual stimuli, key differences emerged in how they structured their narratives. These differences align with Hofstede's cultural dimensions (2001); Hofstede Insights, 2023; Minkov & Kaasa (2022) cultural studies, particularly the contrast between Hungary's high individualism and Jordan's collectivist orientation.

The following discussions directly addresses the research questions and hypotheses by identifying which event, role, emotion, and propositional schemas surface for both groups, and showing their relative prominence: both Hungarian and Jordanian bilinguals activate core schemas (H1), but Jordanians more frequently infuse collectivist schemas (familial duty, communal solidarity, relational harmony; H2), whereas Hungarians more frequently infuse individualist schemas (personal autonomy, self-directed agency, independence; H3). Moreover, these patterns align with Hofstede's individualism–collectivism and power-distance dimensions, and our examination of perspective and figure–ground structuring demonstrates how L1 socio-cultural schemas interact with English narrative conventions to shape both thematic content and form.

Emotion Schemas

Across all four TAT cards, both Hungarian and Jordanian bilinguals activate a common set of emotion schemas—automatic, representational structures that guide how loss, guilt, sadness, and love are narrated (Boutyline & Soter, 2021; Sharifian, 2011). Yet the "cultural coloring" of each schema reveals systematic differences along the individualism–collectivism and power-distance dimensions (Hofstede, 2001; Su-Yuen & Rubin, 2000). In what follows, we discuss each emotion schema in turn, highlighting shared narrative architecture alongside group-specific emphases.

- ***Grief, Sadness & Distress:*** Both groups integrate the precipitating event and sorrow into a single Grief schema (Schank & Abelson's event scripts; Sharifian, 2011). Hungarian narratives, however, consistently place grief within private, life-or-death contexts like wartime loss or illness (Card 1, Nishida, 2005). Drawing on national narratives shaped by historical conflicts, Hungarian students may frame war as central to identity (Brockmeier & Carbaugh, 2001; Bruner, 2002),

reflecting collective memory where past events influence interpretations (Wertsch & Roediger, 2008). Jordanian narratives, by contrast, foreground collective mourning rituals—shared dinners and extended-family commemorations (Card 1), enacting grief communally. This reflects a collectivist schema linking emotional suffering to social solidarity (Mesquita, 2001; Al-Krenawi & Graham, 2006), a pattern potentially influenced by Jordan's relative lack of direct war experience. In Card 2, Hungarians lament thwarted personal aspirations and parental pressures, whereas Jordanians link sadness to kinship loss and communal duties left unmet. Card 3 shows Hungarian distress born of lost autonomy (aging, caregiving demands), while Jordanian distress arises from fragile family ties and unwanted marriages. These contrasts reflect how each culture's emotion schemas map experience: Hungarians foreground internal states, Jordanians situate sorrow within relational contexts (Langacker, 1987; Talmy, 2000).

- ***Remorse:*** Both groups integrate acknowledgment of wrongdoing and a desire to repair, reflecting Sharifian's (2017) obligation schema. Hungarian narratives, however, emphasize *internal moral conflict*—guilt over personal ambitions or withheld truths (Card 1), aligning with individualistic self-accountability (D'Andrade, 1995). Jordanian accounts, in contrast, emphasize *relational restoration* through formal apologies or caregiving (Card 1), reflecting high power-distance norms prioritizing social harmony and filial duty (Hofstede Insights, 2023).
- ***Burnout:*** Both groups exhibit a Burnout schema under sustained pressures (Card 2), characterized by exhaustion and depletion. Culturally, however, the focus diverges. Hungarian narratives emphasize systemic work-life imbalance driven by economic necessity, multiple jobs, healthcare shifts, and single-parent strain, reflecting individualistic contexts where stress stems from competing personal responsibilities (Taris, 2006). Conversely, Jordanian stories locate burnout primarily within relational caregiving demands, such as mothers overwhelmed by large families or obligatory, unfulfilling work. This aligns with collectivist cultures where identity is tied to kinship duties, depleting resources and causing strain (Hamaideh, 2011).
- ***Unreturned Love & Romantic Devotion:*** In Card 4, the Unreturned Love schema surfaces more often for Hungarians than Jordanians. Hungarians script it as an intensely personal struggle, longing and vulnerability in failed romances, whereas Jordanian accounts embed it within marital roles and social expectations. Meanwhile, both cultures celebrate Romantic Devotion as a propositional schema of ideal love. Hungarians draw on cinematic tropes of sacrifice and

transformation, while Jordanians root devotion in family continuity and partnership rituals. These patterns align with Hofstede's individualism–collectivism dimension and show how propositional schemas ("*love must endure*") intertwine with emotion schemas.

- ***Neglect and Jealousy:*** Hungarian narratives uniquely elaborate a Neglect schema in Card 3, portraying chronic emotional abandonment due to parental absence or caretaker substitution. This schema reflects social changes, migration, career mobility, that disrupt traditional family networks. Jealousy (Card 4) appears twice for Hungarians, once for Jordanians. Hungarians depict it as an internalized suspicion within stable unions; the single Jordanian instance dramatizes patriarchal control and abuse, showing the intersection of emotion schemas with local power structures.

Events schemas

Across the four picture cards, participants consistently deploy a shared set of Event Schemas, script-like, culturally mediated templates for organizing experiential sequences (Schank & Abelson, 1977; Sharifian, 2011). These schemas guide how narrators construe pivotal life events, separation, hardship, relational rupture, resilience, and sacrifice, yet they are inflected by group-specific values around autonomy, duty, and communal cohesion. Below, we discuss the principal event schemas in turn, showing both their universal narrative functions and the divergent "colorings" that emerge in Hungarian versus Jordanian storytellings.

- ***Separation and Loss:*** Both groups exhibit a Separation schema involving physical or emotional distance from loved ones. Hungarian narratives frame this as personal regret and guilt, missed farewells, infrequent visits, and unspoken goodbyes, reflecting an individual-focused script of private loss (Card 1; Card 2). Jordanians, conversely, construe separation as a breach of communal duty: migration, overseas marriage, or divorce rupture extended family integrity, causing abandonment and dishonor (Card 1; Card 2). In Arab-Islamic contexts, familial obligation is a religious imperative; the Qurʾān equates obedience to parents with obedience to God (Oweis et al., 2012). Thus, the same "departure as fracture" schema maps to either *introspective remorse* (characteristic of independent self-construals) or *disrupted social obligation* (reflecting interdependent selves), echoing divergent cultural models of selfhood (Markus & Kitayama, 1991).

- ***Financial Hardship and Injustice:*** Economic crises activate a Financial Hardship schema, triggering familial role renegotiation. Hungarians script *individual sacrifice*: protagonists silently shoulder debts/failing enterprises to spare kin (Card 1). Jordanians emphasize *collective provider roles*, with sons formally assuming breadwinner duties under communal pressure (Card 1). This hardship-injustice link diverges culturally: Hungarians locate Injustice in *institutional betrayals* (corrupt courts, wrongful detention), reflecting skepticism toward authority (Card 2). Jordanians frame injustice within *domestic/workplace hierarchies* (unpaid labor, abusive spouses, exploitative employers), aligning with power-distance norms (Card 2). Both schemas demonstrate Markus & Kitayama's (1991) self-construals, *independent* agency versus *interdependent* duty-bound roles.
- ***Relationship Breakdown, Betrayal, and Conflict:*** Ruptures coalesce into a Relationship Breakdown schema. Hungarians narrate betrayal/divorce with direct agency: infidelity prompts immediate separation led by the wronged partner (Card 2). Jordanian accounts describe breakdowns as negotiated processes where duty, honor, and societal expectations delay dissolution (Card 2), reflecting collectivist interdependence (Almutairi et al., 2021; Al-Krenawi & Graham, 2006). The Betrayal schema (Card 4) reiterates this: Hungarians privilege swift departure after violation, while Jordanians engage in emotional negotiation or reluctant reconciliation—prioritizing relational harmony (Mesquita, 2001). Conflict scenes (money, fidelity, daily slights) reveal gendered divergence: Hungarian stories frequently depict women as unfaithful (reflecting post-communist secularization and feminist gains; Fodor, 2004), whereas Jordanian narratives cast men as betrayers. This aligns with cultural logics: in Jordan's patrilineal society, female infidelity destabilizes familial honor (Al-Krenawi & Graham, 2006), while male infidelity reflects tacit patriarchal tolerance within honor-shame dynamics (Mosquera et al., 2002)
- ***Resilience, Sacrifice, and Early Marriage:*** Adversity activates a Resilience schema of adaptive renewal (Card 2). Hungarians frame this as individual ambition—pursuing education/careers—while Jordanians stress collective perseverance through familial rebuilding. The Sacrifice schema diverges similarly: Hungarians depict self-directed sacrifices in love/careers (Card 4); Jordanians emphasize obligatory sacrifices—arranged marriages, adopting kin, or relational repair (Card 4). Early Marriage (Card 3) reveals stark contrast: Hungarian narratives treat teen unions as socioeconomic strategy, whereas Jordanian accounts

(more frequent) portray coercive, autonomy-stripping trauma. This aligns with Walker's (2012) finding that individualistic cultures frame marriage as personal choice, while collectivist contexts like Jordan restrict agency, inducing distress (Raj, 2010).

Role Schemas

Role schemas are shared cognitive structures that encode normative expectations about social positions and duties (Sharifian, 2017; D'Andrade, 1995). They surface prominently in the participants' stories of intergenerational tension and sibling dynamics. Although not every card elicited role-focused themes, the two that did (Cards 1 and 3) reveal how Hungarian and Jordanian bilinguals negotiate family roles through contrasting cultural lenses.

- ***Intergenerational Tension (Familial Discord):*** Both groups enact a Familial Discord schema in Picture 1 but diverge in emphasis. Hungarian narrators frame discord through individual rights/burdens—partner choice, career moves, financial risks, embodying an autonomy role schema where children assert agency despite parental disapproval (Sharifian, 2017; Kovács-Tóth et al., 2023). This reflects individualistic self-responsibility (Hofstede, 2001). Jordanian accounts, conversely, cast conflict as threats to collective welfare/honor (e.g., working abroad, selling ancestral property). Their role schema prioritizes filial duty and hierarchical interdependence, maintaining group stability in collectivist, high-power-distance contexts (Al-Hassan and Lansford, 2009; Hofstede Insights, 2023).
- ***Sibling Dynamics (Sibling Rivalry):*** Picture 3 introduced a Sibling Rivalry schema in both cultures, equally frequent but differently enacted. Hungarian stories focus on the older sister's personal envy, resenting her newborn brother as an "annoying, crying thing" before eventually growing to accept him. This mirrors a role schema of sibling as peer competitor, resolved through individual emotional adjustment. Jordanian narratives, however, position rivalry within parental mediation: jealousy is addressed by mothers who actively scaffold love for the newcomer, accentuating a communal approach to role negotiation and emotional socialization within the family. Such mediation aligns with Sharifian's (2011) event schema approach, wherein observers (parents) enact corrective scripts to restore harmony.
- ***Variable Salience Across Cards:*** Notably, role schemas were absent in Cards 2 and 4, suggesting that those prompts elicited more emotion- and event-oriented narratives than reflections on social roles. This variability underscores that certain situational cues prime role

schemas more effectively, family conflict and sibling presence, in our study, while others foreground affective or action-based scripts.

Propositional Schemas

Propositional schemas are shared evaluative or belief statements that guide how events are construed and justified (Sharifian, 2011; Boutyline & Soter, 2021). Unlike event or emotion schemas, they foreground "what one ought to think or do," anchoring narrative choices in collective values. Across our four cards, three principal propositional schemas recur, Resilience, Independence, and Guidance—along with hybrid forms in Card 4 (Manipulation and Romantic Devotion). Each reflects culturally distinct prescriptions about agency, duty, and interpersonal conduct.

- ***Resilience*:** In Card 2, both groups enact a Resilience propositional schema: "One ought to overcome adversity through agency and adaptation." Hungarian stories describe individual ambition (e.g. Nathaniel's medical dreams and Irena's study rituals) as core to bouncing back (Sharifian, 2011). Jordanian accounts cast resilience as collective perseverance, with Mary launching a business after firing and Yara mobilizing her children to rebuild their home. This contrast echoes Sharifian's distinction between propositional schemas that valorize personal achievement versus communal solidarity.
- ***Independence*:** Card 3 yielded an Independence schema, "One ought to assert personal agency against prescribed roles", equally present in both samples. Hungarians framed this as defiance of traditional norms: daughters rejecting housewifery or arranged unions to pursue self-defined paths (D'Andrade, 1995). Fülöp et al. (2019) observed that Hungarian adolescents' narratives emphasize self-determination and personal responsibility, with minimal reference to familial or societal pressures shaping key life choices, a pattern consistent with individualistic societies. Jordanians voiced similar autonomy, resisting parental impositions on play, marriage, and career in favor of personal interests or education. These narratives illustrate how a shared propositional stance surfaces within divergent cultural scripts: Western-influenced individualism versus emerging forms of self-determination in collectivist settings (Su-Yuen & Rubin, 2000).
- ***Guidance*:** Unique to Jordanian narratives in Card 3, the Guidance schema, "One ought to prioritize academic success and behavioral discipline", appears in many instances (e.g., mothers urging daughters to study rather than play). This reflects a culturally ingrained belief in education

as moral and social duty, with parental advisories encoded as propositional statements that structure children's aspirations (Boutyline & Soter, 2021). The absence of this schema in Hungarian data underscores divergent educational ethos and parental roles across cultures.

- ***Manipulation (Hybrid Propositional–Event):*** In Card 4, narratives of Manipulation blend propositional and event schemas: "One may wield emotional or financial power to achieve ends." Hungarian stories portray manipulation as calculated opportunism, marrying for wealth or covertly orchestrating crimes while feigning innocence. Jordanian accounts frame it as intimate power plays, threats of self-harm, betrayal for gain, or classic exploitative bargains. The propositional dimension ("It is permissible to coerce when stakes are high") reveals how cultural norms around honor and agency inflect narratives of control (Sharifian, 2017).
- ***Romantic Devotion (Hybrid Propositional–Emotion):*** Also in Card 4, the Romantic Devotion schema interweaves propositional ideals, "Love should be transformative, sacrificial, and enduring", with emotion scripts. Hungarians drew on cinematic tropes of self-sacrifice and life-changing love, while Jordanians rooted devotion in marital partnership and family-building commitments. This shared belief in love as a noble ideal reflects a universal propositional schema, yet its narrative enactment, Hollywood versus familial drama, diverges with cultural expectations (Mesquita, 2001; Hofstede, 2001). A striking contrast also emerged in how participants framed the couple's relationship. Jordanian narratives overwhelmingly showed them as married, whereas Hungarian participants often portrayed them as a non-marital couple. In Jordan, marriage remains a cornerstone of social stability, reinforced by religious norms and extended family structures (Alali, 2006).

This section directly addresses H4**,** showing how L1 socio-cultural schemas drive content choices (themes) while English perspective and figure–ground conventions shape narrative form. Hungarian and Jordanian bilinguals must "translate" their deeply held L1 cultural schemas into the structural habits of English storytelling. In practice, they use English's subject-predicate templates and clear event sequencing (Slobin, 1996) to recast schemas of grief, duty, or autonomy into narratives that still bear their native "cultural coloring." Hungarians, for instance, consistently profile (figure) individual sorrow or guilt, often via first-person inner monologue or evaluative adjectives, and place contextual details (ground) in the background. Jordanians, conversely, foreground communal rituals and filial actions as figures, using English temporal markers and deictics to locate events in shared social space, while relegating individual feelings to the ground.

These perspective and figure–ground choices show how L1 schemas ("one must honor parents," "I must follow my dreams") drive content selection, even as English's narrative conventions shape the form. In other words, bilinguals navigate a continuous dance between their native cultural scripts and the event–evaluation scaffolding of English, yielding hybrid stories that are both culturally specific and grammatically coherent.

The narratives confirm that cultural schemas, as cognitive templates for interpreting lived experiences (Sharifian, 2011; Strauss & Quinn, 1997), significantly shape bilingual meaning-making in the L2. As Palmer (1996) argues, all native knowledge of language and culture belongs to cultural schemas, and using a language is essentially an act of putting these schemas into practice. This is evident in how participants' interpretations of war, early marriage, intimacy, and relationship struggles diverged along culturally specific lines, reflecting deeply ingrained cultural conceptualizations. These patterns mirror collectivist vs. individualist trauma narratives (Hinton & Good, 2016), aligning with Sharifian's (2011, 2017) findings on the role of cultural schemas in shaping semantic and pragmatic meaning across varieties of English. The influence of cultural schemas is not only apparent in content selection but also in the structuring of moral evaluations (Goddard & Wierzbicka, 2013). For example, participants from collectivist backgrounds framed relationship struggles through themes of familial duty and social expectations, while those from individualist cultures emphasized personal autonomy and self-fulfillment, an observation consistent with Chasiotis et al.'s (2010) findings. These distinctions highlight how cultural schemas, embedded in linguistic and cognitive structures, mediate bilinguals' meaning-making processes in an L2.

The participants' young age introduces a dynamic tension between cultural tradition and modernization. Arnett's (2000) theory of emerging adulthood posits that individuals in this stage actively negotiate identity and values, which may explain Hungarian participants' non-traditional relationship framing, a hallmark of individualistic societies where youth prioritize self-exploration (Schwartz, 2014). Conversely, Jordanian participants, even within this exploratory phase, internalized marital norms. This comes in line with Inglehart and Baker's (2000) argument that collectivist societies retain core values despite globalization.

Chapter 5 has shown which schemas emerged (RQ 1), how often (RQ 2), why they differ culturally (RQ 3), and how they interact with English conventions (RQ 4), thus confirming our hypotheses. Despite these divergences, both groups converged on universal themes: love, loss,

betrayal, and the struggle to reconcile personal desires with societal expectations. This duality underscores storytelling's role as both a cultural artifact and a human universal (Bruner, 2002). The thematic ambiguity of the picture cards, as intended in the TAT picture cards where implicit motives and schemas amplified these cultural projections.

CHAPTER SIX

STUDY 3: CROSS-CULTURAL ANALYSIS OF IMPLICIT MOTIVES IN WRITTEN NARRATIVES: A MOTIVE DISPOSITION THEORY AND LIWC-22 APPROACH

6.1. Chapter overview

Chapter 6 presents Study 3, which investigates cross-cultural differences in the expression of motivational drivers within written narratives in an EFL context, focusing on university students from Hungary and Jordan. Building on the thematic and schema-based insights of Studies 1 and 2, this chapter shifts the analytical lens to the psychological motivations that underpin narrative construction, employing Motive Disposition Theory and LIWC-22 software for quantitative analysis. Motivational drivers (achievement, affiliation, and power) are integral to understanding human behavior, each shaped by cultural norms, socialization practices, and individual experiences. By analyzing bilinguals' responses to TAT picture cards, this study explores how these implicit motives manifest in L2 narratives, revealing how L1 cultural schemas and early socialization interact with English storytelling conventions. LIWC-22 provides a quantitative framework for uncovering linguistic markers of these psychological constructs, such as pronoun use, analytic-thinking scores, and narrative complexity—while MDT coding identifies the thematic content of each motive. This chapter investigates implicit motives via LIWC-22, answering Research Questions 1–3 and testing Hypotheses 1–3 (see Chapter 1, pp. 7–8). The results and discussions indicate that affiliation motives were significantly different between the Jordanian and Hungarian participants. Achievement motives showed minimal cultural variation, and power motives revealed no differences between the two groups. A card-by-card analysis highlighted that themes involving family and gender roles were the most culturally differentiated, especially in narratives related to mother-child dynamics. Picture cards with emotionally charged scenarios involving personal struggles elicited more universally shared responses.

6.2. Results and discussion

6.2.1. LIWC-22 categories (General observations)

The linguistic analysis conducted using LIWC-22 revealed several significant differences between Hungarian and Jordanian participants in various psycholinguistic categories. It is important to note

that these are not all the categories reported by LIWC-22 but rather those selected for their relevance and interest in the context of this study. These findings highlight differences in linguistic complexity, cognitive processing, and social orientation in their narrative constructions (Table 32).

Table 32. Comparison of linguistic and psychological features and categories in Hungarian and Jordanian narratives (LIWC-22 Analysis and a T-test)

Category and Abbrev.	**Hungarians**		**Jordanians**		*t*	*p*	**95% CI**	
	M	*SD*	*M*	*SD*			*LL*	*UL*
Total word count (WC)	132.78	60.18	99.26	49.91	6.06	**0.000**	22.66	44.39
Word per sentence (WPS)	14.98	4.45	16.36	5.96	-2.61	**0.01**	-2.41	-0.34
Big Words (7 letters or longer)	14.94	3.78	13.27	4.93	3.8	**0.000**	0.81	2.53
1st person singular (I)	0.85	2.16	1.46	3.07	-2.31	**0.02**	-1.14	-0.09
1st person plural (we)	0.29	0.66	0.26	0.7	0.36	0.72	-0.11	0.16
2nd person (you)	0.24	0.57	0.61	1.56	-3.16	**0.002**	-0.6	-0.14
3rd person singular (she/he)	9.33	4.05	11.63	5.32	-4.86	**0.000**	-3.23	-1.37
3rd person plural (they)	1.56	2.21	1.36	2.58	0.85	0.39	-0.27	0.68
Analytical thinking	43.12	24.75	34.56	24.22	3.5	**0.001**	3.75	13.37
Clout	87.7	19.07	91.6	17.66	-2.12	**0.04**	-7.51	-0.28
Authentic	14.85	23	10.74	22.32	1.82	**0.07**	-0.34	8.57
Emotional tone	34.98	31.8	32.87	32.96	0.65	0.52	-4.31	8.52
Positive tone	3.11	2.15	2.81	2.27	1.37	0.17	-0.13	0.74
Negative tone	2.8	2.11	2.93	2.52	-0.56	0.58	-0.59	0.33
Cognitive processes	13.15	4.69	12.51	4.97	1.34	0.18	-0.3	1.59
Certitude	0.59	1.05	0.32	0.71	3.07	**0.002**	0.1	0.45
Social processes	22.21	5.67	27.26	6.52	-8.27	**0.000**	-6.25	-3.85
Family	2.87	2.8	3.98	3.24	-3.65	**0.000**	-1.7	-0.51
Friends	0.29	0.68	0.25	0.7	0.6	0.55	-0.09	0.18
Female references	8.68	5.4	10.46	6.56	-2.95	**0.003**	-2.96	-0.59
Male references	4.83	4.51	6.03	5.42	-2.41	**0.02**	-2.18	-0.22
Lifestyle	2.93	2.73	2.77	2.61	0.59	0.56	-0.37	0.68
Work	1.15	1.8	1.47	2.19	-1.57	0.12	-0.71	0.08
Money	0.34	0.77	0.37	0.81	-0.41	0.69	-0.19	0.12
Religion	0.06	0.27	0.07	0.28	-0.48	0.63	-0.07	0.04
Past focus	7.34	4.37	5.85	4.15	3.51	**0.003**	0.66	2.33
Present focus	4.57	3.77	6.16	3.99	-4.1	**0.000**	-2.36	-0.83

In terms of linguistic complexity and word use, Hungarian participants produced significantly more words (M = 132.78 per story) than their Jordanian counterparts (M = 99.26 per story), $p <$

.001, suggesting a tendency toward more elaborate narratives. However, Jordanian participants constructed slightly longer sentences (M = 16.36) than Hungarians (M = 14.98), $p = .01$, indicating a preference for more complex sentence structures. Additionally, Hungarian participants used a significantly higher proportion of long words (seven letters or more) (M = 14.94) than Jordanian participants (M = 13.27), $p < .001$.

Pronoun use patterns revealed differences in social orientation and narrative perspective. Jordanian participants used significantly more first-person pronoun (i) compared to the Hungarians who used more third-person singular pronouns (e.g., he, she, her and his) indicating a possible focus on individual characters within their stories. Similarly, Jordanians used significantly more second-person pronouns (e.g., "you") (M = 0.61) than Hungarians (M = 0.24) $p = .002$, which may suggest a more direct and engaging narrative style.

Differences were also observed in cognitive and emotional processing. Hungarian participants scored significantly higher on analytical thinking (Metric of logical, formal thinking) (M = 43) than Jordanians (M = 34.56), $p = .001$, suggesting a more structured and logical approach to storytelling. Additionally, they used significantly more certitude words (really, actually, of course, real) (M = 0.59) than Jordanians (M = 0.32), $p = .002$. In contrast, Jordanian participants used significantly more words related to social processes (you, we, he, she) (M = 27.26) compared to Hungarians (M = 22.21), $p < .001$, reinforcing a collectivist orientation in their narratives.

Cultural influences were particularly evident in thematic focus. Jordanian participants mentioned family (parent, mother, father, baby) significantly more often (M = 3.98) than Hungarian participants (M = 2.87), $p < .001$, aligning with cultural expectations regarding the centrality of family in Middle Eastern societies. Additionally, Hungarian participants exhibited a significantly stronger focus on past events (was, had, were, been) (M = 7.34, SD = 4.37) compared to Jordanians (M = 5.85), $p = .003$, whereas Jordanian participants showed a greater focus on the present (is, are, I'm, can) (M = 6.16) than Hungarians (M = 4.57), $p < .001$, suggesting differences in temporal perspectives when constructing narratives.

Although some differences did not reach statistical significance, they still offer valuable insights into linguistic tendencies. For instance, Hungarian participants displayed a slightly higher tendency toward authenticity (Perceived honesty, genuineness) in their narratives, though this difference was not statistically significant. Similarly, no substantial differences were observed in emotional tone, indicating that both groups expressed emotions at similar levels. Furthermore,

themes related to work, money, and religion appeared with low frequency in both groups, suggesting that these topics were not central to the narratives produced. Overall, the findings highlight key cross-cultural differences in linguistic and cognitive approaches to storytelling.

6.2.2. MDT Findings for all picture cards combined

To holistically examine how cultural background shapes motivational drivers, the three implicit core motives (achievement, power, and affiliation) were analyzed across all four picture cards. Independent samples t-tests and MANOVA were employed to compare Hungarian and Jordanian narratives, with results aggregated to identify overarching patterns.

Table 33. Multivariate analysis (MANOVA) – overall group effect for all four picture cards

Effect		Value	F	Hypothesis df	Error df	P
Intercept	Pillai's Trace	.771	444.255[b]	3.000	396.000	.000
	Wilks' Lambda	.229	444.255[b]	3.000	396.000	.000
	Hotelling's Trace	3.366	444.255[b]	3.000	396.000	.000
Sample	Pillai's Trace	.031	4.170[b]	3.000	396.000	.006
	Wilks' Lambda	.969	4.170[b]	3.000	396.000	.006
	Hotelling's Trace	.032	4.170[b]	3.000	396.000	.006

Note. *Pillai's Trace, Wilks' Lambda and Hotelling's Trace are four different multivariate test statistics. A significant overall effect was found for the sample variable (**p** = .006).*

A Multivariate Analysis of Variance (MANOVA, Table 33) was conducted to examine the effects of cultural group (Hungarian vs. Jordanian) on the three motives across all four picture card narratives. The results revealed significant effects for both the intercept and the sample. For the intercept, the analysis indicated a significant effect on the three motives in all narratives. The statistical results were as follows: Pillai's Trace = 0.771, $F(3, 396) = 444.255$, $p < 0.001$; Wilks' Lambda = 0.229, $F(3, 396) = 444.255$, $p < 0.001$; and Hotelling's Trace = 3.366, $F(3, 396) = 444.255$, $p < 0.001$. These results suggest that there are significant differences in the combined motives across the narratives, indicating that the intercept plays a role in shaping the overall patterns of responses.

Furthermore, the sample (Hungarian vs. Jordanian) showed a significant effect on the three motives, with the following results: Pillai's Trace = 0.031, $F(3, 396) = 4.170$, $p = 0.006$; Wilks' Lambda = 0.969, $F(3, 396) = 4.170$, $p = 0.006$; and Hotelling's Trace = 0.032, $F(3, 396) = 4.170$,

p = 0.006. While the effect size for the sample is relatively modest (Pillai's Trace = 0.031), the results indicate a statistically significant difference between the Hungarian and Jordanian participants, suggesting that cultural group influences the motives expressed in the narratives of all picture cards combined.

A series of one-way ANOVAs were also conducted to examine the effects of sample on three motives (affiliation, achievement, and power) in all picture card narratives. The results for the corrected model, intercept, and sample are shown in Table 34.

Table 34. Tests of between-subjects effects for All four picture cards: ANOVA results for motives (Affiliation, Achievement, and Power)

Source		df	F	P	Partial Eta Squared
Corrected Model	affiliation	1	7.925	.005	.020
	achieve	1	3.554	.060	.009
	power	1	.959	.328	.002
Intercept	affiliation	1	805.510	.000	.669
	achieve	1	296.378	.000	.427
	power	1	226.370	.000	.363
Sample	affiliation	1	7.925	.005	.020
	achieve	1	3.554	.060	.009
	power	1	.959	.328	.002

Note. *df = degrees of freedom; F = F-test statistic; p = p-value; Partial Eta Squared = effect size. A significant main effect of the sample was found for affiliation (F(1, 396) = 7.925, p = .005, η²p = .020),*

For affiliation, the corrected model revealed a significant effect, F(1, 398) = 7.925, p = 0.005, with a small effect size, partial η^2 = 0.020. The intercept also showed a significant effect on affiliation, F(1, 398) = 805.510, p < 0.001, with a large effect size, partial η^2 = 0.669. The sample effect on affiliation was also significant, F(1, 398) = 7.925, p = 0.005, with a small effect size, partial η^2 = 0.020.

For achievement, the corrected model showed a marginally significant effect, F(1, 398) = 3.554, p = 0.060, with a very small effect size, partial η^2 = 0.009. The intercept for achievement was significant, F(1, 398) = 296.378, p < 0.001, with a large effect size, partial η^2 = 0.427. The sample effect on achievement was marginally significant, F(1, 398) = 3.554, p = 0.060, with a very small effect size, partial η^2 = 0.009.

For power, the corrected model did not reveal a significant effect, with an extremely small effect size. The intercept for power showed a significant effect, F(1, 398) = 226.370, p < 0.001,

with a moderate effect size, partial $\eta^2 = 0.363$. The sample effect on power was not significant, with an extremely small effect size.

To further investigate differences in motivational drivers between Hungarian and Jordanian participants, an independent samples t-test was conducted alongside MANOVA and ANOVA analyses. The t-test (Table 35) compared mean scores for achievement, power, and affiliation motives in narratives elicited for all picture cards combined.

Table 35. T-test – Per Variable comparison for all picture cards between the two groups

Motives	Hungarians		Jordanians		*t*	*p*	95% CI	
	M	*SD*	*M*	*SD*			*LL*	*UL*
Achievement	1.11	1.24	1.39	1.64	-1.89	**0.06**	-.560	.012
Power	1.09	1.38	1.24	1.71	-0.98	.328	-.457	.153
Affiliation	3.52	2.44	4.29	3.03	-2.815	**.005**	-1.32	-.234

Note. *M = Mean; SD = Standard Deviation; t = t-test statistic; p = p-value; CI = Confidence Interval; LL = Lower Limit; UL = Upper Limit. Significant differences are indicated in bold (**p** < .05).*

For achievement, there was a marginal difference between the two groups, t(398) = -1.89, $p = 0.060$. The mean score for Hungarian participants (M = 1.11, SD = 1.24) was slightly lower than that for Jordanian participants (M = 1.39, SD = 1.64). The 95% confidence interval for the mean difference ranged from -0.560 to 0.012, indicating that the difference was not statistically significant at the conventional $p < 0.05$ threshold.

For power, there was no significant difference between the two groups. The mean score for Hungarian participants was slightly lower than that for Jordanian participants. The 95% confidence interval for the mean difference ranged from -0.457 to 0.153, further confirming that the observed difference was not statistically significant.

For affiliation, the results revealed a significant difference between the two groups, t(398) = -2.815, $p = 0.005$. Hungarian participants (M = 3.52, SD = 2.44) had significantly lower affiliation scores compared to Jordanian participants (M = 4.29, SD = 3.03). The 95% confidence interval for the mean difference ranged from -1.32 to -0.234, indicating a meaningful difference in how the two groups expressed affiliation in their narratives.

6.2.3. MDT findings in each of the four picture cards separately

This section of the results presents the analyses of the narratives produced for each picture card separately. This section of the results presents the analyses of the narratives produced for each picture card.

MANOVA results (Table 36) For Picture Card 1 ("Mother, Adult Son"), revealed a statistically significant overall effect of cultural background on the three implicit motives, *Wilks' Lambda* = 0.908, $F(3, 96) = 3.239$, $p = .026$, with a medium effect size ($\eta^2 = .092$). This indicates that the combined motivational responses of achievement, power, and affiliation differed significantly between Hungarian and Jordanian participants when interpreting this family-oriented image.

Table 36. Multivariate Analysis (MANOVA) - overall group effects across picture cards

Picture Card	Effect	Wilks' Lambda	F	df	Error df	p	η^2	Interpretation
Card 1: Mother, Adult Son	Sample	0.908	3.239	3	96	.026*	0.092	Significant effect
Card 2: Defeated Woman	Sample	0.968	1.065	3	96	0.368	0.033	No significant effect
Card 3: Mother, Daughter, Doll	Sample	0.924	2.626	3	96	0.055	0.076	Marginally significant
Card 4: Hot Couple	Sample	0.978	0.721	3	96	0.542	0.022	No significant effect

Note: *indicates $p < .05$. η^2 represents partial eta squared effect size. All intercept effects were significant ($p < .001$) across all cards, indicating strong overall model fits.**

In the case of Picture Card 2 ("Defeated Woman"), no significant effect was observed. The analysis yielded *Wilks' Lambda* = 0.968, $F(3, 96) = 1.065$, $p = .368$, with a small effect size ($\eta^2 = .033$). This suggests that participants' overall motivational expressions were similar across cultural groups when responding to this more emotionally ambiguous image.

For Picture Card 3 (“Mother, Daughter, Doll”), the multivariate test approached statistical significance, *Wilks' Lambda* = 0.924, $F(3, 96) = 2.626$, $p = .055$, $\eta^2 = .076$. Although marginal, this result suggests that cultural background may have influenced participants' combined motivational patterns, particularly in contexts involving maternal or childhood themes.

Finally, Picture Card 4 (“Hot Couple”) showed no significant cultural effect, *Wilks' Lambda* = 0.978, $F(3, 96) = 0.721$, $p = .542$, $\eta^2 = .022$. This finding suggests minimal variation in overall motivational expression between groups in response to this image, which may reflect shared interpretations or less culturally charged content.

As also shown in Table 37, these independent samples t-test results complement the MANOVA findings by identifying the specific motivational dimensions in which cultural differences emerged.

Table 37. Independent Samples T-test results - motive comparisons across picture cards

3	**Motive**	**Hungarians**		**Jordanians**		**t**	**p**	**95% CI**	
		M	SD	M	SD			LL	UL
Card 1: Mother, Adult Son	Achievement	0.85	1.24	1.4	1.53	-2	**.047***	-1.11	-0
	Power	1.3	1.4	1.27	1.61	0.08	0.94	-0.57	0.6
	Affiliation	3.46	2.38	4.6	2.46	-2.4	**.021***	-2.1	-1.8
Card 2: Defeated Woman	Achievement	1.09	1.12	1.67	2.19	-1.7	0.1	-1.3	0.1
	Power	0.97	1.28	1.23	2.03	-0.8	0.45	-0.9	0.4
	Affiliation	2.79	2.36	2.82	2.73	-0.1	0.94	-1	1
Card 3: Mother, Daughter, Doll	Achievement	1.25	1.25	1.26	1.25	-0.1	0.95	-0.51	0.5
	Power	1.2	1.63	1.16	1.38	0.13	0.9	-0.56	0.6
	Affiliation	4.61	2.54	6.24	3.29	-2.8	**.007***	-2.8	-0.5
Card 4: Hot Couple	Achievement	1.27	1.31	1.21	1.44	0.22	0.83	-0.49	0.6
	Power	0.89	1.16	1.3	1.79	-1.4	0.17	-1.01	0.2
	Affiliation	3.21	2.14	3.5	2.49	-0.6	0.53	-1.21	0.6

Note: *M = mean; SD = standard deviation; t = t-test statistic; p = p-value; 95% CI = confidence interval (LL = lower limit, UL = upper limit); NS = not significant.* indicates $p < .05$.*

Jordanians scored significantly higher than Hungarians on the achievement motive only in Picture Card 1 ("Mother, Adult Son"). Regarding affiliation, significant differences were found in both Card 1 and Card 3 ("Mother, Daughter, Doll"), with Jordanians again scoring higher. No significant cultural differences were observed for the power motive across any of the four picture cards.

Several consistent patterns also emerged. Jordanians demonstrated higher mean scores in both achievement and affiliation motives across most picture cards, even when those differences did not reach statistical significance. In contrast, power motive expression remained largely similar between the two cultural groups, indicating a shared approach to power-related themes. Notably, the most pronounced cultural contrasts occurred in family-oriented scenarios (Cards 1 and 3), particularly in the domain of affiliation. These findings underscore the culturally embedded nature of relational motivation and support the broader pattern identified through multivariate analysis.

Across both language-use and motivational analyses, clear cross-cultural distinctions emerged. Jordanian participants reported marginally greater overall English use than Hungarians, whereas Hungarians exhibited higher lexical diversity and sophistication and reached higher CEFR levels.

LIWC-22 analyses revealed that Hungarians produced longer texts with more complex vocabulary and higher analytical thinking scores, while Jordanians employed more social process words (including first- and second-person pronouns) and placed greater emphasis on family and present-focused language. Motivationally, across all picture cards, affiliation motives differed most markedly between Hungarian and Jordanian participants, with Jordanians expressing stronger relational drives. Achievement motives showed only slight cultural variation, while power motives remained consistent across both groups. Together, these results underscore how cultural background shapes both linguistic form and underlying motivational drivers in bilingual narrative construction.

6.2.4. Discussion

The findings of this study confirm that achievement, affiliation, and power function as central motivators shaping human narratives, as posited by McClelland (1961). Integrating Winter's (1994) insights on implicit and explicit motivational systems, this research underscores the value of projective methods, such as the Thematic Apperception Test (TAT), in capturing unconscious motivational drivers that self-report measures often fail to detect. These results are further

supported by Schultheiss et al. (2004) and Schultheiss & Köllner, (2021), who emphasize that implicit motives, unlike explicit ones, predict spontaneous behavior and long-term behavioral trends.

Across the Hungarian and Jordanian participants, cultural background significantly shaped affiliation motives, with Jordanian bilinguals expressing stronger relational themes. This pattern aligns with collectivist frameworks that emphasize group cohesion, familial responsibility, and interdependence (Hofstede, 2001). Jordanian narratives were notably rich in interpersonal connections and the use of first-person pronouns, reflecting a communal orientation rooted in the cultural expectation to maintain social harmony (Kashima & Kashima, 1998). These results confirm that implicit affiliation motives are more pronounced in Jordanian than Hungarian narratives (RQ1), supporting H1's prediction of stronger affiliation expression among Jordanian bilinguals. Conversely, Hungarian participants, coming from a more individualistic cultural context, displayed lower affiliation scores, consistent with values of autonomy and self-definition (Chasiotis et al., 2010).

The pronounced emphasis on affiliation among Jordanian participants can be further explained through Motive Disposition Theory (McClelland, 1965). Within collectivist societies, the affiliation motive is deeply reinforced through early socialization, where maintaining relational harmony and avoiding social exclusion are prioritized. Hofer et al. (2017) underscore this dual motivational orientation, *hope for closeness* and *fear of rejection*, which sensitizes individuals to social feedback and interdependence. This theoretical framing helps explain why Jordanian narratives so consistently foreground family, emotional obligation, and group belonging. Hungarian participants, in contrast, were more likely to express affiliation through individually situated relationships, emphasizing self-determined emotional ties rather than communal expectations.

These findings echo those of Winter (1994), who observed ethnic differences in affiliation and achievement motives within a U.S. college sample. His study found that Asian American students exhibited higher affiliation motivation than their White peers, reflecting similar collectivist patterns. This supports the view that affiliation is not uniformly distributed but rather shaped by deeply rooted cultural schemas. Winter's broader comparison across cultures also highlights that motive expression can vary significantly even within shared educational contexts, reinforcing the present study's claim that implicit motives are not culturally neutral.

Achievement motives, meanwhile, showed only marginal cultural variation. Both groups emphasized academic and goal-oriented themes, albeit through distinct lenses. Jordanian participants often framed achievement in terms of family expectations and social recognition, whereas Hungarian participants expressed it through personal ambition and self-directed growth. This cultural inflection illustrates how the hope-for-success vs. fear-of-failure orientation (Chasiotis et al., 2014) may manifest differently across settings. It also parallels Winter's (1994) observation of higher achievement motivation among African American students, interpreted not as a trait but as a response to cultural and institutional pressures (Crosby et al., 2003). In both contexts, achievement appears as a context-sensitive but broadly shared motivational domain. While both groups recount goal-oriented themes, the distinctly personal-ambition framing by Hungarians versus family-expectation framing by Jordanians confirms H2, demonstrating stronger achievement motives in Hungarian narratives (RQ1).

Interestingly, power motives did not differ significantly between the two cultural groups. One might expect more overt expressions of power in a highly individualistic setting like Hungary, where agency and assertiveness are culturally emphasized (Schultheiss & Brunstein, 2010). However, the lack of group differences suggests that the hope-for-influence orientation of power may be increasingly shaped by globalized academic and social environments. As participants from both cultures are embedded in higher education and exposed to international norms of leadership, cooperation, and influence, their narrative expressions of power may reflect a shared motivational template. Additionally, the ambiguous and emotionally charged nature of the TAT stimuli likely shifted participants' attention toward relational dynamics, thereby muting dominance cues. The absence of a significant group difference in power motives speaks to RQ1 and contrasts with H3's original prediction, indicating that implicit power expression may be equally tempered across these EFL contexts.

It is also important to interpret these null findings alongside the consistently small effect sizes for the significant results (e.g., for affiliation), which indicate that cultural background interacts with other factors rather than determining motive expression on its own. This pattern aligns with prior research showing that motive differences in TAT narratives are often subtle, with small effects and occasional null results offering meaningful theoretical constraints (Winter, 1994; Schultheiss & Pang, 2007). As Lonner (1985) emphasized, the TAT's utility lies in its capacity to elicit

culturally embedded yet variably salient responses, highlighting both shared and divergent motivational patterns within and across cultures.

The bilingual, English-mediated context of this study likely tempered culturally specific expression by imposing both cognitive and affective constraints. Writing in a non-native language can neutralize emotional vocabulary and lead bilinguals to compartmentalize identity and values across languages (Ervin, 1964; Pavlenko, 2008; Dewaele, 2017). As a lingua franca, English often lacks the cultural resonance of participants' L1, encouraging more universal, globally intelligible storytelling—especially in emotionally ambiguous contexts (Katsavdakis et al., 2001; Perez-Palen, 2022). This may help explain why anticipated themes of power and emotional tension were muted, reflecting the instrumental function that English serves in academic settings for both Hungarian and Jordanian narrators.

Finally, this study revealed consistent patterns in pronoun usage, narrative complexity, and cognitive-emotional framing. For example, Jordanian narratives were notably rich in interpersonal connections and showed significantly higher use of first-person singular pronouns ("I") and second-person pronouns ("you"), reflecting a more direct, relational storytelling style that positions the audience as active participants. Surprisingly, this contradicts the usual association of collectivist cultures with reduced first-person singular pronoun use (Kashima & Kashima, 1998; Markus & Kitayama, 1991), suggesting that Jordanian storytellers may strategically employ personal pronouns to enhance social engagement. In contrast, Hungarian participants used significantly more third-person singular pronouns, suggesting an independent self-construal and a more detached, objective narrative perspective. Hungarian participants also scored significantly higher on analytical thinking, a LIWC-22 metric capturing logical, categorical language and structured reasoning, indicating a cultural preference for systematic, rule-based thought. The relatively lower analytical thinking scores among Jordanian participants should not be interpreted as cognitive deficiency but rather as evidence of alternative cognitive styles that emphasize contextual and relational reasoning. These findings align with Chung and Pennebaker's (2008) argument that linguistic markers, especially in emotionally rich narratives, serve as reliable proxies for underlying psychological and cultural dispositions. The pronounced use of personal pronouns and higher analytical-thinking scores among Hungarian participants—versus the rich interpersonal pronoun use by Jordanians, directly addresses RQ3, illustrating how perspectivization, cognitive patterns, and narrative complexity differ by culture in L2 storytelling.

Chapter 6 has illuminated how affiliation, achievement, and power motives manifest (RQ 1), the role of cultural values (RQ 2), and the impact on narrative form (RQ 3), thus evaluating Hypotheses 1–3. LIWC-22 has proven effective for uncovering linguistic markers of psychological processes in large text corpora (Tausczik & Pennebaker, 2010). At the same time, it is important to acknowledge limitations in the use of LIWC-22 for cross-cultural and bilingual narrative data. While LIWC-22 provides robust psychometric measures for English-language texts, studies have shown that its category consistency can vary across languages (Dudău & Sava, 2021) and that bilinguals often experience reduced affective resonance when using second-language emotion terms (Altarriba et al., 2003; Opitz & Degner, 2012). This means that LIWC's emotion-related categories may underrepresent the emotional nuance present in L2 narratives. Furthermore, because LIWC's dictionary is based on general word categories, it may not fully capture culturally embedded schemas, idioms, or context-specific connotations that shape how bilinguals frame their stories (Pennebaker et al., 2015). Future research could address these challenges by combining LIWC with qualitative or discourse-based approaches to better reflect the cross-cultural depth of bilingual narrative construction.

CHAPTER SEVEN

GENERAL CONCLUSIONS, PEDAGOGICAL IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH

7.1. Conclusions

This dissertation demonstrated that bilingual university students' narrative production in English as a second language (L2) is shaped by a dynamic interplay between culturally ingrained cognitive schemas and universal human concerns, even within a shared linguistic medium. Synthesizing findings across three studies, the research underscores that L1 cultural frameworks persistently influence bilinguals' conceptual representations, thematic priorities, and motivational drivers in L2, despite globalization fostering thematic commonalities. Below are the overarching conclusions aligned with the research questions:

Conceptual representations exhibit both shared and culture-specific features. Universal themes (e.g., autonomy, regret) emerged across groups, likely influenced by globalization and generational commonalities, while differences in linguistic features (e.g., narrative structure, emotional framing) highlighted the enduring role of L1 cultural schemas. The analysis also revealed that L1 cultural frameworks persistently guide bilinguals' interpretation of ambiguous stimuli in L2, despite shared universal themes (e.g., moral dilemmas). For instance, English narratives by Jordanian bilinguals emphasized familial duty and communal harmony, aligning with collectivist norms, whereas those by Hungarian bilinguals prioritized individualism and personal agency. These divergences in framing and resolution strategies confirm that L2 narratives remain rooted in L1 sociocultural values, even when produced in a shared linguistic medium. These results support my hypothesis, underscoring that cultural orientations shape L2 production even when linguistic proficiency is comparable.

Regarding implicit motivational drivers and linguistic patterns, the results showed that motives were culturally distinct, with Jordanian bilinguals scoring higher in affiliation motive due to collectivist emphases on social harmony, while achievement and power motives showed cross-cultural similarity, potentially reflecting universal aspirations. The card-by-card analysis revealed that cultural schemas most prominently influenced narratives related to familial roles and gender norms. Linguistic features (e.g., pronoun usage, emotional tone) further mirrored cultural

orientations, demonstrating that motivational expression in L2 is filtered through culturally ingrained narrative conventions.

In sum, this dissertation illustrates that bilinguals' L2 narratives are not merely products of linguistic competence but are profoundly shaped by implicit cultural schemas and motivational priorities. The integration of computational linguistic analysis (LIWC-22) and culturally ambiguous visual stimuli (e.g., TAT cards, silent films) provided a robust methodological framework for uncovering implicit cultural and motivational patterns, demonstrating that even in a globalized world, L1 cultural frameworks persistently influence how experiences are conceptualized and expressed in L2. This duality has critical implications for cross-cultural psychology, suggesting that bilingual cognition is inherently hybrid, and for bilingual pedagogy, which must account for cultural, not just linguistic, transfer to foster authentic communication.

7.2. Practical implications for educators

This research offers valuable insights for educators working with multilingual and multicultural students. Understanding how cultural schemas shape narrative construction enables more inclusive teaching strategies that integrate both universal human experiences and culturally specific themes. Incorporating visual stimuli, such as silent films and culturally relevant texts, enhances student engagement and broadens perspectives.

Beyond education, these insights equip students with the skills to navigate intercultural communication in academic, professional, and social settings. Recognizing different motivational frameworks and narrative structures enhances cross-cultural understanding, preparing students for global interactions.

Professional development for educators should emphasize culturally responsive teaching, adapting feedback to honor diverse storytelling traditions while refining linguistic development. Culturally sensitive assessment practices should acknowledge variations in narrative structure, ensuring fair evaluation across multilingual learners.

7.3. Limitations of the research

While this research provides valuable insights into how cultural schemas and motivational factors shape bilingual narrative construction, several limitations should be acknowledged.

i. The participant pool consisted of university students from Hungary and Jordan, which, while culturally distinct, may not fully represent the broader linguistic and cultural

diversity of bilingual speakers. Future research could extend this investigation to different linguistic and cultural groups to determine whether the observed patterns hold across various sociocultural contexts.

ii. The reliance on written narratives as the primary data source, while useful for capturing deep-seated cognitive and motivational patterns, may not fully reflect the dynamics of spoken narrative construction. Oral storytelling and spontaneous speech may reveal additional nuances in bilinguals' conceptual representations and cultural influences. Incorporating multimodal data, such as spoken discourse or real-time narrative tasks, could provide a more comprehensive understanding.

iii. Although projective techniques like the Thematic Apperception Test (TAT) offer valuable insights into implicit motives, their interpretation remains subjective to some extent. While thematic analysis helped ensure systematic coding, integrating complementary methods, such as longitudinal studies or neurocognitive measures, could enhance the robustness of future research.

Despite these limitations, the study contributes to an evolving understanding of how bilinguals construct narratives in their L2, shedding light on the interplay between cultural, cognitive, and motivational influences. Addressing these limitations in future research could further refine and expand upon the insights presented in this study.

7.4. Suggestions for future research

Building on the findings of this dissertation, future research could explore several key directions to deepen our understanding of bilingual narrative construction and cross-cultural influences.

i. Expanding the study to include participants from a wider range of linguistic and cultural backgrounds would provide a more comprehensive picture of how different sociocultural frameworks shape narrative expression.

ii. Incorporating oral narratives alongside written ones could enhance the understanding of bilinguals' storytelling strategies. Spoken discourse analysis would allow researchers to examine real-time cognitive processing, linguistic choices, and narrative spontaneity, offering a richer perspective on bilingual expression. Additionally, longitudinal studies tracking changes in bilinguals' narrative styles over time could reveal how cultural schemas evolve with increased language exposure and proficiency.

iii. Future research could integrate experimental and neurocognitive methods to explore the underlying mechanisms of implicit and explicit motives in narrative construction. Eye-tracking studies, neuroimaging techniques, or reaction time experiments could offer insights into how bilinguals process cultural and motivational cues in real-time when constructing narratives in their L2.

iv. Refining the use of computational tools such as LIWC-22 by combining them with qualitative analyses could lead to more nuanced interpretations of bilingual narratives. Machine learning techniques and natural language processing (NLP) models could be employed to detect deeper patterns in linguistic and psychological constructs, further enhancing the precision of cultural and motivational analyses.

v. Future research could examine how different educational interventions influence bilinguals' narrative skills. Investigating how structured pedagogical approaches, such as storytelling-based curricula or intercultural communication training, affect bilinguals' ability to integrate cultural and motivational elements into their L2 narratives would have practical implications for language education and cross-cultural communication.

By pursuing these research avenues, scholars can continue to refine our understanding of the relationship between culture, cognition, and bilingual narrative construction, ultimately contributing to both theoretical advancements and practical applications in language learning and intercultural communication.

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SUPPLEMENTARY MATERIALS

1. Bilingual language profile (Arabic-English)

We would like to ask you to help us by answering the following questions concerning your language history, use, attitudes, and proficiency. This survey was created with support from the Center for Open Educational Resources and Language Learning at the University of Texas at Austin to better understand the profiles of bilingual speakers in diverse settings with diverse backgrounds. The survey consists of 18 questions and will take less than 10 minutes to complete. This is not a test, so there are no right or wrong answers. Please answer every question and give your answers sincerely. Thank you very much for your help.

Email:

Name:

Age: Sex: Male ☐ Female ☐

Current place of residence (city/ state/ country):

Highest level of formal education: Bachelor ☐ Master ☐ PhD ☐

Language History

1- At what age did you start **learning Arabic**?
   At what age did you start **learning English**?
2- At what age did you **start to feel comfortable** using Arabic?
   At what age did you **start to feel comfortable** using English?
3- How many years have you spent in a **country/region** where Arabic is spoken?
   How many years have you spent in a **country/region** where English is spoken?
4- How many years have you spent in a **family** where Arabic is spoken?
   How many years have you spent in a **family** where English is spoken?
5- How many years have you spent in a **work environment** where Arabic is spoken?
   How many years have you spent in a **work environment** where English is spoken?

Language use

6- In an average week, what percentage of the time do you use the following languages **with friends**?

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Arabic											
English											
Other languages											

7- In an average week, what percentage of the time do you use the following languages **with family**?

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Arabic											
English											
Other languages											

8- In an average week, what percentage of the time do you use the following languages **at school/work**?

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Arabic											
English											
Other languages											

9- When you talk to yourself, how often do you **talk to yourself** in the following languages?

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Arabic											
English											
Other languages											

10- When you count, how often do you **count** in the following languages?

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

Arabic											
English											
Other languages											

Language proficiency

In this section, we would like you to rate your language proficiency by giving marks from 0 to 6.

0** being **Not well at all** **6** being **Very well

11- How well do you **speak** the following languages?

	0	1	2	3	4	5	6
Arabic							
English							

12- How well do you **understand** the following languages?

	0	1	2	3	4	5	6
Arabic							
English							

13- How well do you **read** the following languages?

	0	1	2	3	4	5	6
Arabic							
English							

14- How well do you **write** the following languages?

	0	1	2	3	4	5	6
Arabic							
English							

Language attitudes

In this section, we would like you to respond to statements about language attitudes by giving marks from 0-6.

6= Agree *0= Disagree*

	0	1	2	3	4	5	6
15- I feel like myself when I speak **Arabic**							
I feel like myself when I speak **Arabic**							
16- I identify with an **Arabic-speaking** culture.							
I identify with an **Arabic-speaking** culture.							
17- It is important to me to use (or eventually use) **Arabic** like a native speaker.							
It is important to me to use (or eventually use) **English** like a native speaker.							
18- I want others to think I am a native speaker of **Arabic.**							
I want others to think I am a native speaker of **English**.							

2. Bilingual language profile (Hungarian-English)

We would like to ask you to help us by answering the following questions concerning your language history, use, attitudes, and proficiency. This survey was created with support from the Center for Open Educational Resources and Language Learning at the University of Texas at Austin to better understand the profiles of bilingual speakers in diverse settings with diverse backgrounds. The survey consists of 18 questions and will take less than 10 minutes to complete. This is not a test, so there are no right or wrong answers. Please answer every question and give your answers sincerely. Thank you very much for your help.

Email:

Name:

Age: Sex: ☐ Male ☐ Female

Current place of residence (city/ state/ country) and University:

Highest level of formal education: ☐ Bachelor ☐ Master ☐ PhD

Language History

6- At what age did you start **learning** Hungarian?
At what age did you start **learning** English?
7- At what age did you **start to feel comfortable** using Hungarian?
At what age did you **start to feel comfortable** using English?
8- How many years have you spent in a **country/region** where Hungarian is spoken?
How many years have you spent in a **country/region** where English is spoken?
9- How many years have you spent in a **family** where Hungarian is spoken?
How many years have you spent in a **family** where English is spoken?
10- How many years have you spent in a **work environment** where Hungarian is spoken?
How many years have you spent in a **work environment** where English is spoken?

Language use

19- In an average week, what percentage of the time do you use the following languages **with friends**?

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Hungarian											
English											
Other languages											

20- In an average week, what percentage of the time do you use the following languages **with family**?

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Hungarian											
English											
Other languages											

21- In an average week, what percentage of the time do you use the following languages **at school/work**?

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Hungarian											
English											
Other languages											

22- When you talk to yourself, how often do you **talk to yourself** in the following languages?

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Hungarian											
English											
Other languages											

23- When you count, how often do you **count** in the following languages?

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Hungarian											
English											
Other languages											

Language proficiency

In this section, we would like you to rate your language proficiency by giving marks from 0 to 6.

0** being **Not well at all** **6** being **Very well

24- How well do you **speak** the following languages?

	0	1	2	3	4	5	6
Hungarian							
English							

25- How well do you **understand** the following languages?

	0	1	2	3	4	5	6
Hungarian							
English							

26- How well do you **read** the following languages?

	0	1	2	3	4	5	6
Hungarian							
English							

27- How well do you **write** the following languages?

	0	1	2	3	4	5	6
Hungarian							
English							

Language attitudes

In this section, we would like you to respond to statements about language attitudes by giving marks from 0-6.

6= Agree *0= Disagree*

	0	1	2	3	4	5	6
28- I feel like myself when I speak **Hungarian**							
I feel like myself when I speak **English**							
29- I identify with a **Hungarian -speaking** culture.							
I identify with an **English-speaking** culture.							
30- It is important to me to use (or eventually use) **Hungarian** like a native speaker.							
It is important to me to use (or eventually use) **English** like a native speaker.							
31- I want others to think I am a native speaker of **Hungarian.**							
I want others to think I am a native speaker of **English**.							

3. Thematic Apperception Test

Look at the four pictures given in this test. Your task is to write a complete story about the picture you see. This should be an imaginative story with a beginning, middle, and an end. Try to portray who the people might be, what they are feeling, thinking, and wishing. Try to tell what led to the situation depicted in the picture and how everything will turn out in the end.

Be sure and examine the picture for several seconds to write the story, you will have 10-15 minutes to write whatever story comes into your mind. Try to write continuously the entire time. If you need more time, feel free to continue writing until you are finished. Thank you very much for your help.

Name:

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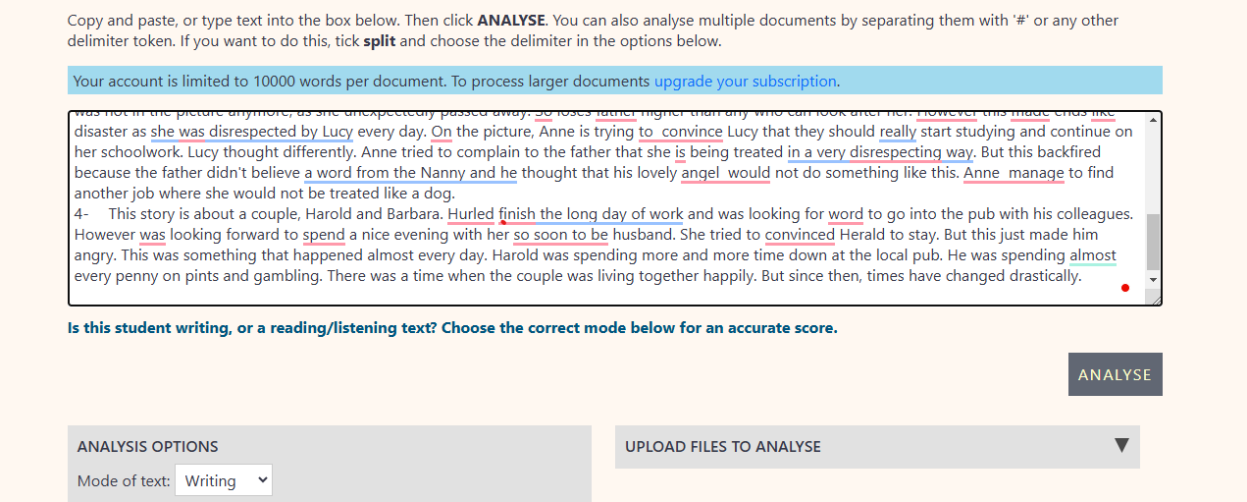
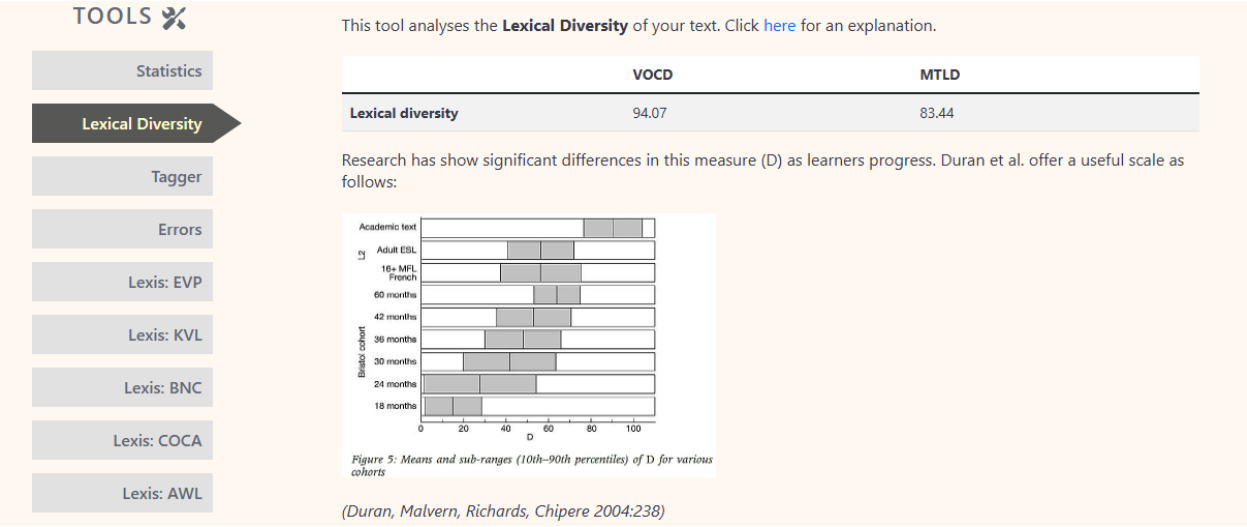
4. Text inspector analysis of narrative data

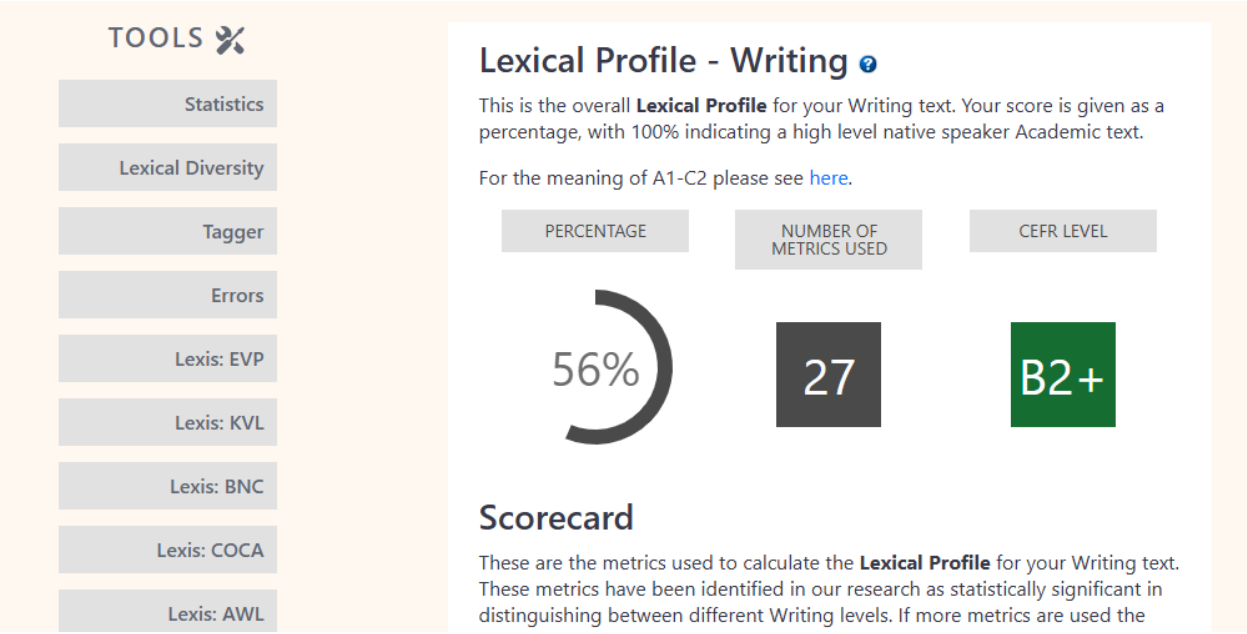
1. The narrative texts were copied and pasted into the **Text Inspector** interface. Then the "Analyze" button was clicked to generate an in-depth linguistic profile of the text.



2. The software provided MTLD (Measure of Textual Lexical Diversity) and VocD scores. These metrics helped quantify the range of vocabulary used in each narrative, reflecting the participant's lexical richness and proficiency.

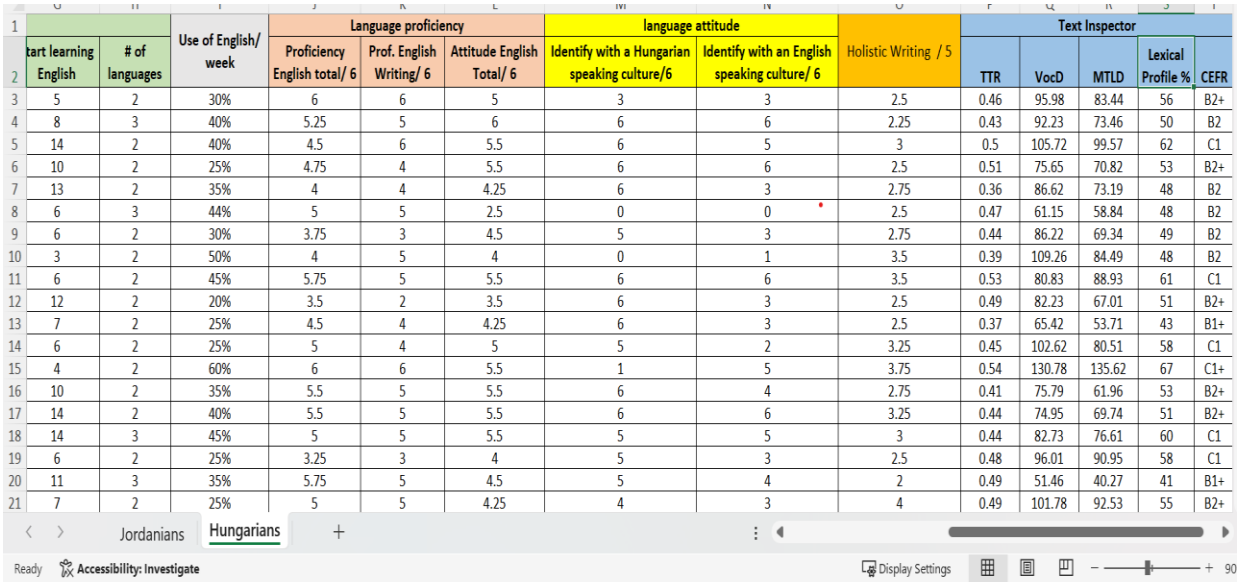


3. Text Inspector categorized the vocabulary according to CEFR levels (A1–C2), indicating the overall language proficiency of the text.



5. Data Transfer from BLP and Text Inspector

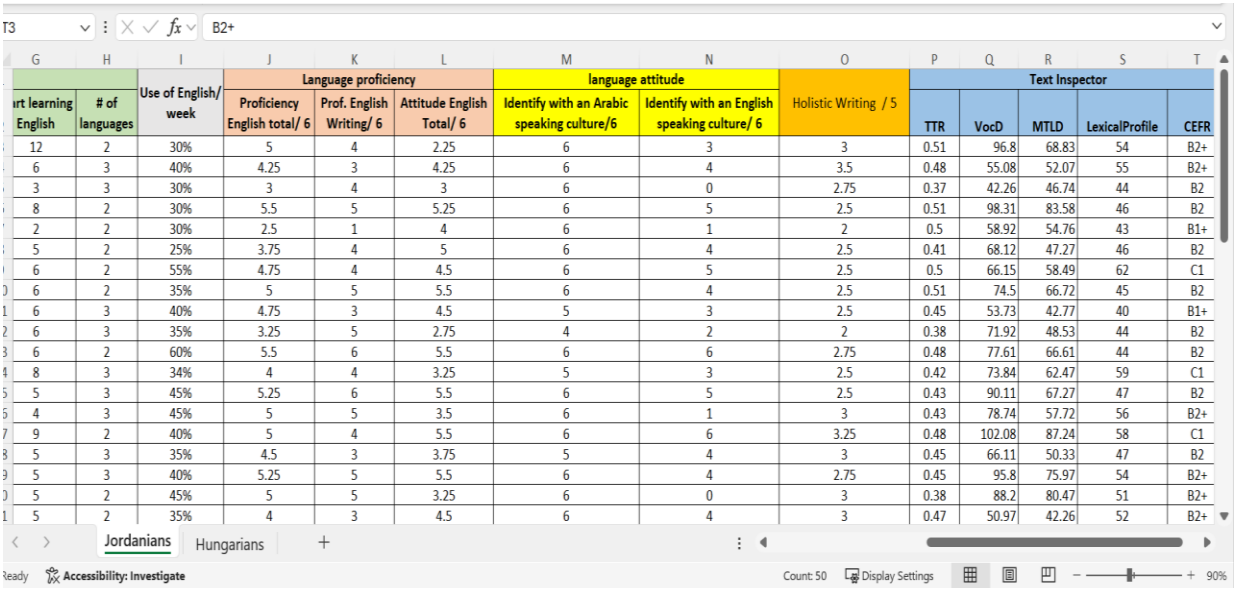
1. Hungarian-English Bilingual Participants



			Use of English/ week	Language proficiency			language attitude		Holistic Writing / 5	Text Inspector				
	tart learning English	# of languages		Proficiency English total/ 6	Prof. English Writing/ 6	Attitude English Total/ 6	Identify with a Hungarian speaking culture/6	Identify with an English speaking culture/ 6		TTR	VocD	MTLD	Lexical Profile %	CEFR
3	5	2	30%	6	6	5	3	3	2.5	0.46	95.98	83.44	56	B2+
4	8	3	40%	5.25	5	6	6	6	2.25	0.43	92.23	73.46	50	B2
5	14	2	40%	4.5	6	5.5	6	5	3	0.5	105.72	99.57	62	C1
6	10	2	25%	4.75	4	5.5	6	6	2.5	0.51	75.65	70.82	53	B2+
7	13	2	35%	4	4	4.25	6	3	2.75	0.36	86.62	73.19	48	B2
8	6	3	44%	5	5	2.5	0	0	2.5	0.47	61.15	58.84	48	B2
9	6	2	30%	3.75	3	4.5	5	3	2.75	0.44	86.22	69.34	49	B2
10	3	2	50%	4	5	4	0	1	3.5	0.39	109.26	84.49	48	B2
11	6	2	45%	5.75	5	5.5	6	6	3.5	0.53	80.83	88.93	61	C1
12	12	2	20%	3.5	2	3.5	6	3	2.5	0.49	82.23	67.01	51	B2+
13	7	2	25%	4.5	4	4.25	6	3	2.5	0.37	65.42	53.71	43	B1+
14	6	2	25%	5	4	5	5	2	3.25	0.45	102.62	80.51	58	C1
15	4	2	60%	6	6	5.5	1	5	3.75	0.54	130.78	135.62	67	C1+
16	10	2	35%	5.5	5	5.5	6	4	2.75	0.41	75.79	61.96	53	B2+
17	14	2	40%	5.5	5	5.5	6	6	3.25	0.44	74.95	69.74	51	B2+
18	14	3	45%	5	5	5.5	5	5	3	0.44	82.73	76.61	60	C1
19	6	2	25%	3.25	3	4	5	3	2.5	0.48	96.01	90.95	58	C1
20	11	3	35%	5.75	5	4.5	5	4	2	0.49	51.46	40.27	41	B1+
21	7	2	25%	5	5	4.25	4	3	4	0.49	101.78	92.53	55	B2+

Jordanians | Hungarians

2. Arabic-English Bilingual Participants

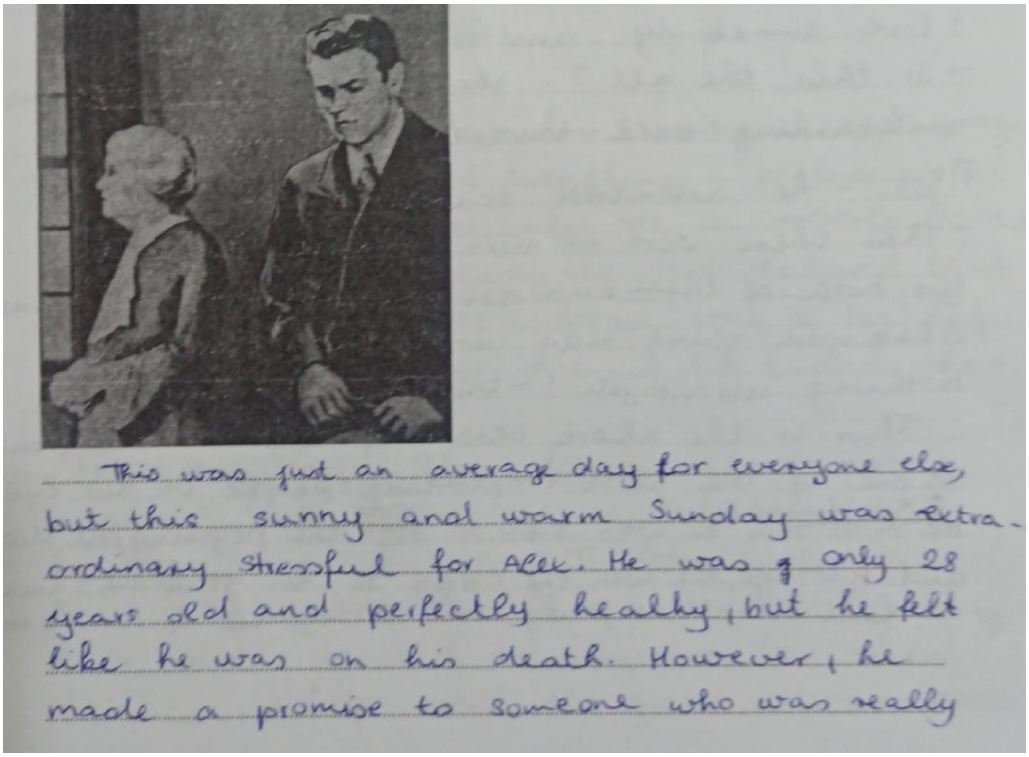


			Use of English/ week	Language proficiency			language attitude		Holistic Writing / 5	Text Inspector				
	rt learning English	# of languages		Proficiency English total/ 6	Prof. English Writing/ 6	Attitude English Total/ 6	Identify with an Arabic speaking culture/6	Identify with an English speaking culture/ 6		TTR	VocD	MTLD	LexicalProfile	CEFR
	12	2	30%	5	4	2.25	6	3	3	0.51	96.8	68.83	54	B2+
	6	3	40%	4.25	3	4.25	6	4	3.5	0.48	55.08	52.07	55	B2+
	3	3	30%	3	4	3	6	0	2.75	0.37	42.26	46.74	44	B2
	8	2	30%	5.5	5	5.25	6	5	2.5	0.51	98.31	83.58	46	B2
	2	2	30%	2.5	1	4	6	1	2	0.5	58.92	54.76	43	B1+
	5	2	25%	3.75	4	5	6	4	2.5	0.41	68.12	47.27	46	B2
	6	2	55%	4.75	4	4.5	6	5	2.5	0.5	66.15	58.49	62	C1
0	6	2	35%	5	5	5.5	6	4	2.5	0.51	74.5	66.72	45	B2
1	6	3	40%	4.75	3	4.5	5	3	2.5	0.45	53.73	42.77	40	B1+
2	6	3	35%	3.25	5	2.75	4	2	2	0.38	71.92	48.53	44	B2
3	6	2	60%	5.5	6	5.5	6	6	2.75	0.48	77.61	66.61	44	B2
4	8	3	34%	4	4	3.25	5	3	2.5	0.42	73.84	62.47	59	C1
5	5	3	45%	5.25	6	5.5	6	5	2.5	0.43	90.11	67.27	47	B2
6	4	3	45%	5	5	3.5	6	1	3	0.43	78.74	57.72	56	B2+
7	9	2	40%	5	4	5.5	6	6	3.25	0.48	102.08	87.24	58	C1
8	5	3	35%	4.5	3	3.75	5	4	3	0.45	66.11	50.33	47	B2
9	5	3	40%	5.25	5	5.5	6	4	2.75	0.45	95.8	75.97	54	B2+
0	5	2	45%	5	5	3.25	6	0	3	0.38	88.2	80.47	51	B2+
1	5	2	35%	4	3	4.5	6	4	3	0.47	50.97	42.26	52	B2+

Jordanians | Hungarians

6. Sample Handwritten Narratives from Hungarian and Jordanian Participants

- Hungarian Participants' Handwritten Narratives



This was just an average day for everyone else, but this sunny and warm Sunday was extra-ordinary stressful for Alex. He was only 28 years old and perfectly healthy, but he felt like he was on his death. However, he made a promise to someone who was really

2-

It started with pinches. Almost innocent, inebriated pinches. Of clothing, but soon enough, of supple, sensitive flesh.

Bea thought had the illusion she was working at a family establishement. That the customers, all regulars, would never embarrass themselves or her with unwanted advances.

She thought wrong. But as a single mother of 3, well in her thirties, she did not have the luxury of turning down regular pay.

That was until the night of November 7th. Some of the men became too familiar. Not even hiding their intentions, making a joke of

Sophie and her mother were in a saloon. Sophie was holding her little brother closely to mothers appointment. A lady suddenly sat next to them and started talking about a man. Sophie tried not to listen but the description of the man started to sound really similar to her fathers appearance. Sophie thought that it's impossible because her father died two years ago after the birth of her brother. The woman kept talking about the man and Sophie got too curious.

'You promised you would take me to that movie tonight, Jerry, come on!'

'Sandy, dear, rules are to be broken and promises only exist in the light of unmarried rules. How was I supposed to act accordingly?'

The marriage of Jerry and Sandra was long unhappy and undermining. As the years went by, they forgot to take care of it and each other. Jerry even forgot he promised to take her to bed anymore. His home. Sandy became moody and withdrawn and

- Jordanian Participants' Handwritten Narratives

1-

A Disobedient Son

From the picture in front of me I see an older Women Who ~~Kicks~~ ~~or~~ has 52 years old, I would call her Mrs. Harisham. she has a deep conversation with her son, his name is Edmund He is a gental man still in young age, his age 27 years old. Their faces reflect a sad or a regrate emotions. The story talks about

"Sadness"

I think it was a problem ~~happened~~ was with this girl that led her to be sad and in a bad shape like this. I assume that she has a problem with their family and this problem was over the her marriage, her parents dont accept the man who came to marry her and this man ~~not~~ is her love and she has a beatiful relationship ~~with~~ with him for several years. First, he came to her house to talk with her family but ~~He~~ he became looser at the end of the story because everything ~~are~~ going very well but whom ~~he~~ they ask him about his social place and his ~~financial~~ financial ability they refuse him.

3-

Motherhood can come older with us as we did
I was a little girl when I learnt lots of things
and I thought that it was too early to learn now the
meaning of "life" for me as a girl. My mother
continu teaching me everything to a have
a good sense and good behaviors that was good
for me, but I still that little girl who listens to
his mother while thinking-bout what I'm
going to play or I'm going to buy a new
barby. It was too early to leave the body of
childhood, wearing the body of motherhood. That
why I'm living my childhood with my daughter
right now.

A Ghost of Hers

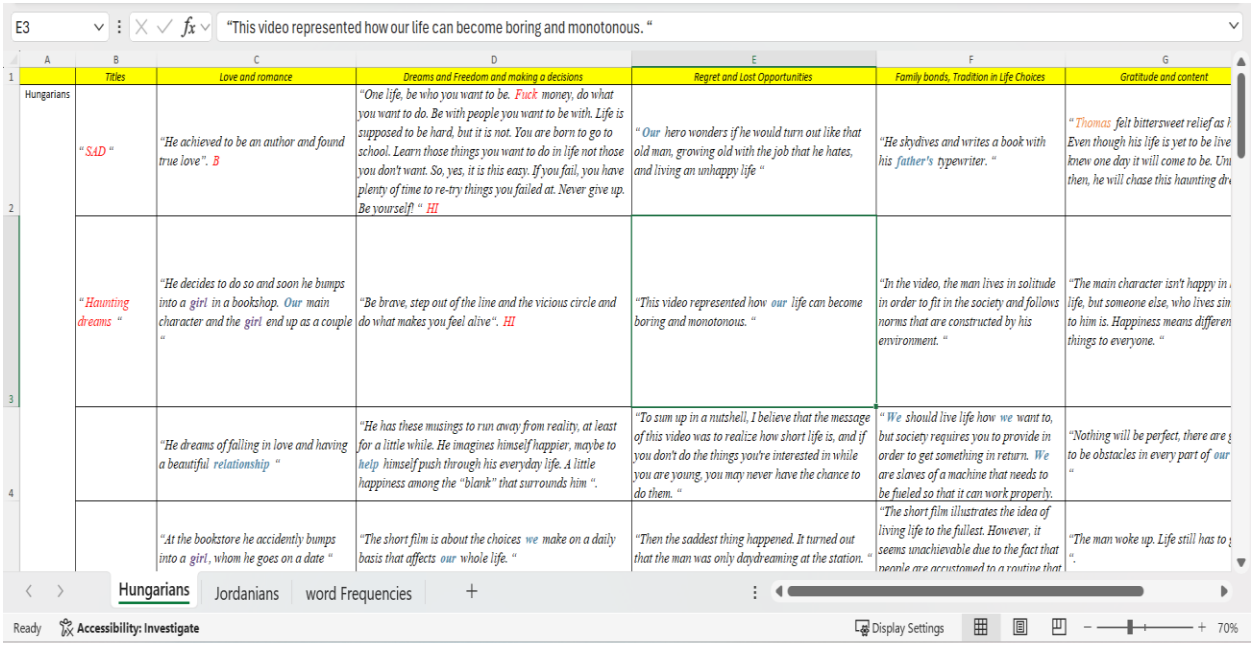
1.

John has returned from work early today because
he is waiting for a guest, a special one. He met her
a metro-station in Paris when he was trying to
chill after the tragic event that it took place
five years ago. Regan revived long-buried
feelings. That's why he thought that
she would redeem his tragedy.

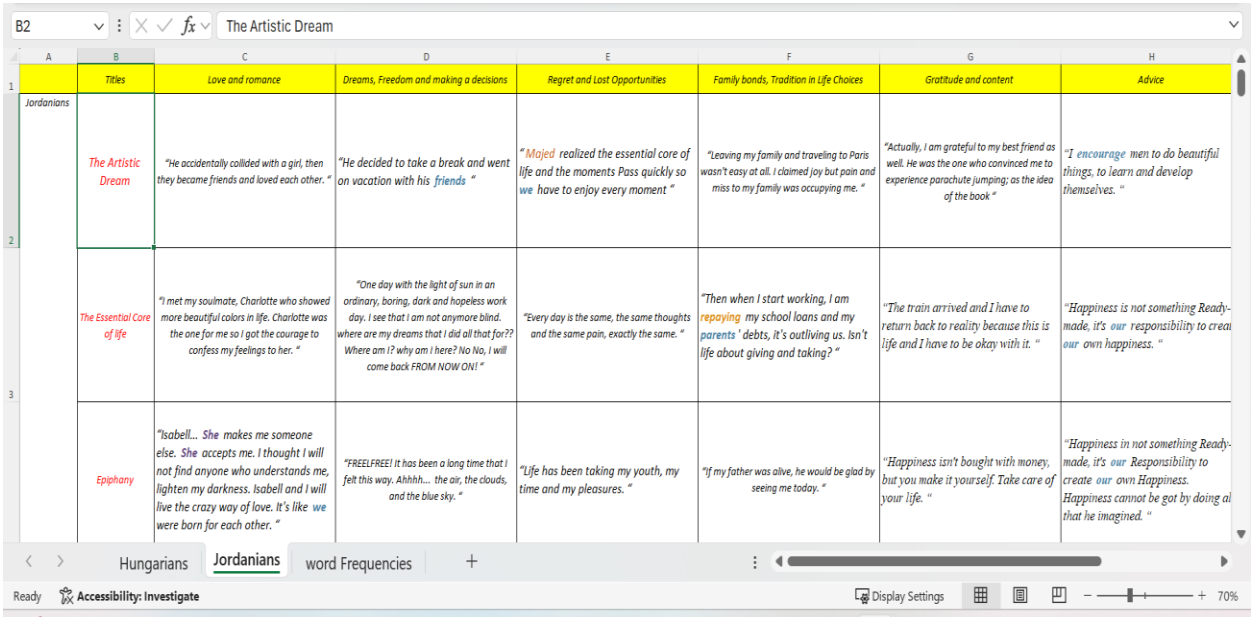
Before Regan arrived, John prepared
some snacks and drinks and he cleaned the house
quickly. He sat waiting. The bell rang. She finally
arrived, he thought. He hurried to open the door
for her. He opened the door and asked her to
come in. He was happy having her tonight

7. Thematic Analysis and Intercoder Reliability

- Initial familiarization with the data and generating initial codes based on emerging themes for study 2 (TAT picture cards).

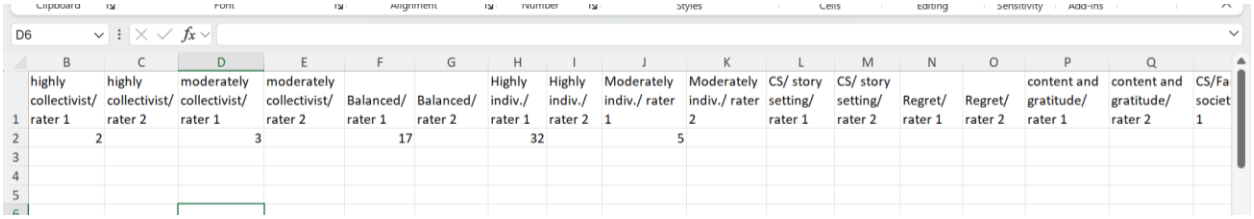


	Titles	Love and romance	Dreams and Freedom and making a decisions	Regret and Lost Opportunities	Family bonds, Tradition in Life Choices	Gratitude and content
Hungarians	" SAD "	"He achieved to be an author and found true love". B	"One life, be who you want to be. Fuck money, do what you want to do. Be with people you want to be with. Life is supposed to be hard, but it is not. You are born to go to school. Learn those things you want to do in life not those you don't want. So, yes, it is this easy. If you fail, you have plenty of time to re-try things you failed at. Never give up. Be yourself! " HI	" Our hero wonders if he would turn out like that old man, growing old with the job that he hates, and living an unhappy life "	"He skydives and writes a book with his father's typewriter. "	" Thomas felt bittersweet relief as h Even though his life is yet to be live knew one day it will come to be. Un then, he will chase this haunting dr
	" Haunting dreams "	"He decides to do so and soon he bumps into a girl in a bookshop. Our main character and the girl end up as a couple "	"Be brave, step out of the line and the vicious circle and do what makes you feel alive". HI	"This video represented how our life can become boring and monotonous. "	"In the video, the man lives in solitude in order to fit in the society and follows norms that are constructed by his environment. "	"The main character isn't happy in life, but someone else, who lives sim to him is. Happiness means differen things to everyone. "
		"He dreams of falling in love and having a beautiful relationship "	"He has these musings to run away from reality, at least for a little while. He imagines himself happier, maybe to help himself push through his everyday life. A little happiness among the "blank" that surrounds him ".	"To sum up in a nutshell, I believe that the message of this video was to realize how short life is, and if you don't do the things you're interested in while you are young, you may never have the chance to do them. "	" We should live life how we want to, but society requires you to provide in order to get something in return. We are slaves of a machine that needs to be fueled so that it can work properly.	"Nothing will be perfect, there are g to be obstacles in every part of our "
		"At the bookstore he accidently bumps into a girl, whom he goes on a date "	"The short film is about the choices we make on a daily basis that affects our whole life. "	"Then the saddest thing happened. It turned out that the man was only daydreaming at the station. "	"The short film illustrates the idea of living life to the fullest. However, it seems unachievable due to the fact that people are accustomed to a routine that	"The man woke up. Life still has to g



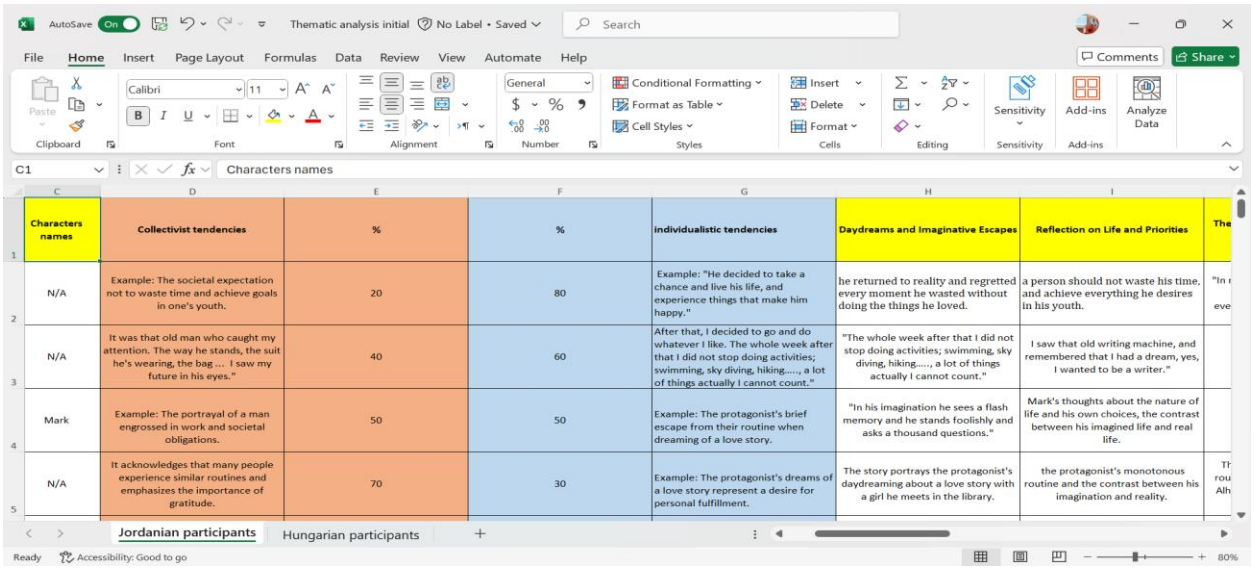
	Titles	Love and romance	Dreams, Freedom and making a decisions	Regret and Lost Opportunities	Family bonds, Tradition in Life Choices	Gratitude and content	Advice
Jordanians	The Artistic Dream	"He accidentally collided with a girl, then they became friends and loved each other. "	"He decided to take a break and went on vacation with his friends "	" Majed realized the essential core of life and the moments Pass quickly so we have to enjoy every moment "	"Leaving my family and traveling to Paris wasn't easy at all. I claimed joy but pain and miss to my family was occupying me. "	"Actually, I am grateful to my best friend as well. He was the one who convinced me to experience parachute jumping; as the idea of the book "	"I encourage men to do beautiful things, to learn and develop themselves. "
	The Essential Core of life	"I met my soulmate, Charlotte who showed more beautiful colors in life. Charlotte was the one for me so I got the courage to confess my feelings to her. "	"One day with the light of sun in an ordinary, boring, dark and hopeless work day. I see that I am not anymore blind. where are my dreams that I did all that for?? Where am I? why am I here? No No, I will come back FROM NOW ON! "	"Every day is the same, the same thoughts and the same pain, exactly the same. "	"Then when I start working, I am repaying my school loans and my parents ' debts, it's outliving us. Isn't life about giving and taking? "	"The train arrived and I have to return back to reality because this is life and I have to be okay with it. "	"Happiness is not something Ready-made, it's our responsibility to creat our own happiness. "
	Epiphany	"Isabell... She makes me someone else. She accepts me. I thought I will not find anyone who understands me, lighten my darkness. Isabell and I will live the crazy way of love. It's like we were born for each other. "	"FREELFREE! It has been a long time that I felt this way. Ahhhh... the air, the clouds, and the blue sky. "	"Life has been taking my youth, my time and my pleasures. "	"If my father was alive, he would be glad by seeing me today. "	"Happiness isn't bought with money, but you make it yourself. Take care of your life. "	"Happiness in not something Ready-made, it's our Responsibility to create our own Happiness. Happiness cannot be got by doing al that he imagined. "

- Intercoder process based on the presence or absence of a certain theme

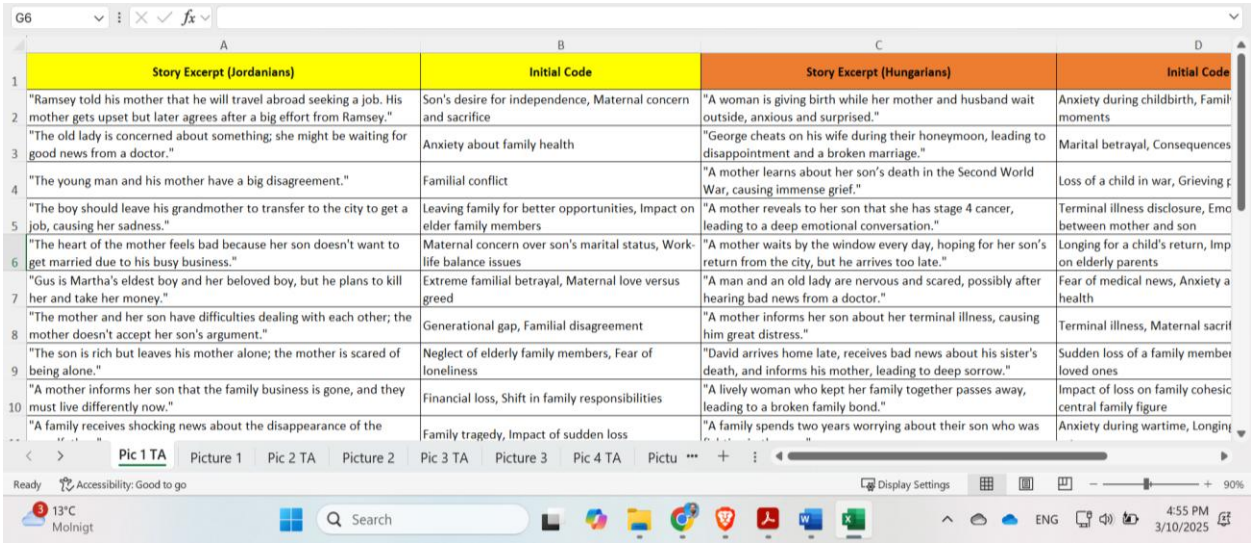


	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	
1	highly collectivist/ rater 1	highly collectivist/ rater 2	moderately collectivist/ rater 1	moderately collectivist/ rater 2	Balanced/ rater 1	Balanced/ rater 2	Highly indiv./ rater 1	Highly indiv./ rater 2	Moderately indiv./ rater 1	Moderately indiv./ rater 2	CS/ story setting/ rater 1	CS/ story setting/ rater 2	Regret/ rater 1	Regret/ rater 2	content and gratitude/ rater 1	content and gratitude/ rater 2	CS/Fa societ 1
2	2		3		17		32		5								

- Initial familiarization with the data and generating initial codes based on emerging themes for study 2 (TAT picture cards).



	C	D	E	F	G	H	I
1	Characters names	Collectivist tendencies	%	%	individualistic tendencies	Daydreams and Imaginative Escapes	Reflection on Life and Priorities
2	N/A	Example: The societal expectation not to waste time and achieve goals in one's youth.	20	80	Example: "He decided to take a chance and live his life, and experience things that make him happy."	he returned to reality and regretted every moment he wasted without doing the things he loved.	a person should not waste his time, and achieve everything he desires in his youth.
3	N/A	It was that old man who caught my attention. The way he stands, the suit he's wearing, the bag … I saw my future in his eyes."	40	60	After that, I decided to go and do whatever I like. The whole week after that I did not stop doing activities; swimming, sky diving, hiking….., a lot of things actually I cannot count."	"The whole week after that I did not stop doing activities; swimming, sky diving, hiking….., a lot of things actually I cannot count."	I saw that old writing machine, and remembered that I had a dream, yes, I wanted to be a writer."
4	Mark	Example: The portrayal of a man engrossed in work and societal obligations.	50	50	Example: The protagonist's brief escape from their routine when dreaming of a love story.	"In his imagination he sees a flash memory and he stands foolishly and asks a thousand questions."	Mark's thoughts about the nature of life and his own choices, the contrast between his imagined life and real life.
5	N/A	It acknowledges that many people experience similar routines and emphasizes the importance of gratitude.	70	30	Example: The protagonist's dreams of a love story represent a desire for personal fulfillment.	The story portrays the protagonist's daydreaming about a love story with a girl he meets in the library.	the protagonist's monotonous routine and the contrast between his imagination and reality.



	A	B	C	D
1	Story Excerpt (Jordanians)	Initial Code	Story Excerpt (Hungarians)	Initial Code
2	"Ramsey told his mother that he will travel abroad seeking a job. His mother gets upset but later agrees after a big effort from Ramsey."	Son's desire for independence, Maternal concern and sacrifice	"A woman is giving birth while her mother and husband wait outside, anxious and surprised."	Anxiety during childbirth, Famil moments
3	"The old lady is concerned about something; she might be waiting for good news from a doctor."	Anxiety about family health	"George cheats on his wife during their honeymoon, leading to disappointment and a broken marriage."	Marital betrayal, Consequences
4	"The young man and his mother have a big disagreement."	Familial conflict	"A mother learns about her son's death in the Second World War, causing immense grief."	Loss of a child in war, Grieving p
5	"The boy should leave his grandmother to transfer to the city to get a job, causing her sadness."	Leaving family for better opportunities, Impact on elder family members	"A mother reveals to her son that she has stage 4 cancer, leading to a deep emotional conversation."	Terminal illness disclosure, Emo between mother and son
6	"The heart of the mother feels bad because her son doesn't want to get married due to his busy business."	Maternal concern over son's marital status, Work-life balance issues	"A mother waits by the window every day, hoping for her son's return from the city, but he arrives too late."	Longing for a child's return, Imp on elderly parents
7	"Gus is Martha's eldest boy and her beloved boy, but he plans to kill her and take her money."	Extreme familial betrayal, Maternal love versus greed	"A man and an old lady are nervous and scared, possibly after hearing bad news from a doctor."	Fear of medical news, Anxiety a health
8	"The mother and her son have difficulties dealing with each other; the mother doesn't accept her son's argument."	Generational gap, Familial disagreement	"A mother informs her son about her terminal illness, causing him great distress."	Terminal illness, Maternal sacrif
9	"The son is rich but leaves his mother alone; the mother is scared of being alone."	Neglect of elderly family members, Fear of loneliness	"David arrives home late, receives bad news about his sister's death, and informs his mother, leading to deep sorrow."	Sudden loss of a family member loved ones
10	"A mother informs her son that the family business is gone, and they must live differently now."	Financial loss, Shift in family responsibilities	"A lively woman who kept her family together passes away, leading to a broken family bond."	Impact of loss on family cohesic central family figure
11	"A family receives shocking news about the disappearance of the	Family tragedy, Impact of sudden loss	"A family spends two years worrying about their son who was	Anxiety during wartime, Longin

8. Word Frequencies and Narrative Patterns in Response to TAT Picture Cards

- Picture card 1 (Mother, Adult son) word cloud

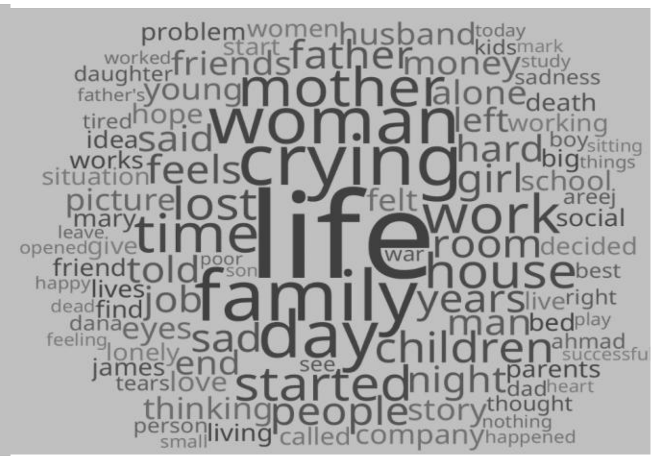
Hungarians picture 1 Jordanians picture 1

- Most Frequent Words in Narratives Responding to Picture 1 ('Mother, Adult son'): A Lexical Comparison Between Hungarian and Jordanian Participants

#	Word pic 1	Freq. Hun	Freq. Jor	#	Word pic 1	Freq. Hun	Freq. Jor
1	mother	78	97	11	woman	32	17
2	son	52	46	12	sad	12	16
3	man	60	30	13	told	14	14
4	life	23	24	14	young	11	14
5	said	11	23	15	picture	30	11
6	day	33	23	16	see	17	11
7	father	19	22	17	time	31	11
8	old	12	20	18	left	15	10
9	family	26	19	19	away	12	8

- Picture 2 (Defeated woman) word clouds

Hungarians picture 2



Jordanians picture 2

- Most Frequent Words in Narratives Responding to Picture 2 ('Defeated woman'): A Lexical Comparison Between Hungarian and Jordanian Participants

#	Word pic 2	Freq. Hun	Freq. Jor	#	Word pic 2	Freq. Hun	Freq. Jor
1	husband	37	9	11	years	13	11
2	day	34	20	12	felt	13	8
3	woman	32	20	13	man	13	10
4	life	31	41	14	left	12	9
5	mother	9	16	15	children	11	11
6	picture	19	8	16	alone	11	8
7	crying	18	22	17	night	11	9
8	time	17	17	18	family	10	22
9	like	15	14	19	girl	10	11
10	friends	14	9	20	school	9	7

- Picture 3 (Mother, Daughter, Doll) word clouds

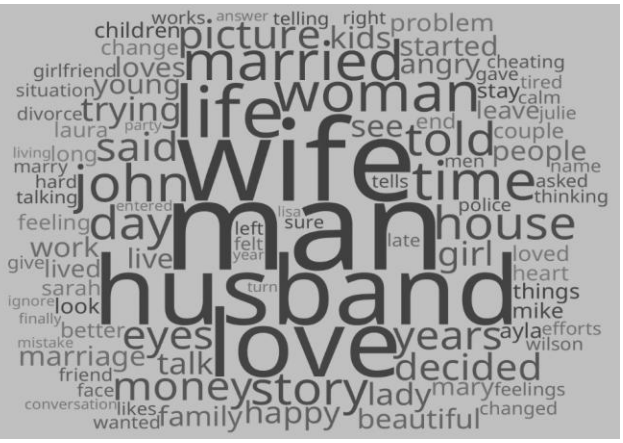
Hungarians picture 3 Jordanians picture 3

- Most Frequent Words in Narratives Responding to Picture 3 ('Mother, Daughter, Doll'): A Lexical Comparison Between Hungarian and Jordanian Participants

#	Word pic 3	Freq. Hun	Freq. Jor	#	Word pic 3	Freq. Hun	Freq. Jor
1	mother	78	97	11	woman	32	17
2	son	52	46	12	sad	12	16
3	man	60	30	13	told	14	14
4	life	23	24	14	young	11	14
5	said	11	23	15	picture	30	11
6	day	33	23	16	see	17	11
7	father	19	22	17	time	31	11
8	old	12	20	18	left	15	10
9	family	26	19	19	away	12	8
10	john	15	19	20	like	20	8

- **Picture 4 (Hot couple) word clouds**

Jordanians picture 4



Hungarians picture 4

- Most Frequent Words in Narratives Responding to Picture 4 ('Hot couple'): A Lexical Comparison Between Hungarian and Jordanian Participants

#	Word pic 4	Freq. Hun	Freq. Jor	#	Word pic 4	Freq. Hun	Freq. Jor
1	man	65	42	10	day	18	13
2	woman	53	16	11	see	16	8
3	time	28	16	12	years	14	11
4	love	26	30	13	married	12	16
5	husband	23	32	14	john	11	15
6	wife	21	38	15	life	10	22
7	like	20	9	16	why	10	11
8	home	20	10	17	another	10	13
9	picture	18	11	18	work	9	6

- **9. Character's Naming in the Narratives Written by the Two Groups and Their Frequency**

	Hungarians' character's names	Frequency	Jordanians' character's names	Frequency
1	John	23	John	33
2	Lucy	19	Sarah	18
3	George	14	Mary	16
4	Lizzie	14	Ahmad	14
5	Jamie	13	Lisa	13
6	Ilona	11	Mark	13
7	Mary	11	Anne	9
8	Sarah	11	Laura	9
9	Suzanne	11	Celia	8
10	Annie	10	Lilly	8
11	Adam	9	Jamal	7
12	Maggie	9	Ali	6
13	Tom	9	Hala	6
14	Alice	8	James	6
15	Greg	8	Lena	6
16	Emily	7	Mike	6
17	Julia	7	Adam	5
18	Margaret	7	Areej	5
19	Peter	7	Ayla	5
20	Smith	7	Dana	5

- **10. Full list of categories generated by LIWC-22 and Statistical Analysis for the narratives in both groups**

Category and Abbrev.	Description/Most frequently used exemplars	Hungarians		Jordanians		t	p	95% CI	
		Mean	SD	Mean	SD			LL	UL
Summary variabales									
Total word count (WC)	Total word count	132.78	60.18	99.26	49.91	6.06	.000	22.66	44.39
Analytical thinking (Analytic)	Metric of logical, formal thinking	43.12	24.75	34.56	24.22	3.50	.001	3.75	13.37
Clout	language of leadership, status	87.70	19.07	91.60	17.66	-2.12	.035	-7.51	-0.28
Authentic	Perceived honesty, genuineness	14.85	23.00	10.74	22.32	1.82	.070	-0.34	8.57
Emotional tone (Tone)	Degree of positive (negative) tone	34.98	31.80	32.87	32.96	0.65	.519	-4.31	8.52
Word per sentence (WPS)	Average words per sentence	14.98	4.45	16.36	5.96	-2.61	.009	-2.41	-0.34
Big Words	Percent words 7 letters or longer	14.94	3.78	13.27	4.93	3.80	.000	0.81	2.53
Dictionary words (Dic)	Percent words captured by LIWC	95.01	3.28	95.70	3.65	-1.99	.048	-1.37	-0.01
Linguistic dimensions									
Linguistic dimensions	Linguistic dimensions in total	76.04	4.51	75.89	6.28	.27	.784	-.93	1.23
Total function words	the, to, and, I	60.59	4.40	59.70	5.40	1.80	.073	-.08	1.85
Total pronouns	I, you, that, it	17.01	4.10	20.26	4.64	-7.43	.000	-4.12	-2.39
Personal pronouns (ppron)	I, you, my, me	12.64	3.40	15.78	4.30	-8.09	.000	-3.90	-2.38
1st person singular (i)	I, me, my, myself	0.85	2.16	1.46	3.07	-2.31	.021	-1.14	-.09
1st person plural (we)	we, our, us, lets	0.29	0.66	0.26	0.70	.36	.718	-.11	.16
2nd person (you)	you, your, u, yourself	0.24	0.57	0.61	1.56	-3.16	.002	-.60	-.14
3rd person singular(shehe)	he, she, her, his	9.33	4.05	11.63	5.32	-4.86	.000	-3.23	-1.37
3rd person plural (they)	they, their, them, themsel*	1.56	2.21	1.36	2.58	.85	.396	-.27	.68

Impersonal pronouns (ipron)	that, it, this, what	4.37	2.31	4.49	2.71	-.46	.646	-.61	.38
Determiners (det)	the, at, that, my	18.08	3.25	18.08	3.89	.00	.997	-.71	.70
Articles	a, an, the, a lot	8.45	3.11	6.71	3.33	5.39	.000	1.10	2.37
Numbers	one, two, first, once	0.96	1.07	0.91	1.10	.43	.670	-.17	.26
Prepositions (prep)	to, of, in, for	13.14	3.07	12.47	3.03	2.19	.029	.07	1.27
Auxiliary verbs (auxverb)	is, was, be, have	8.90	2.71	8.05	3.06	2.94	.004	.28	1.42
Adverbs	so, just, about, there	6.33	2.60	4.74	2.48	6.22	.000	1.08	2.08
Conjunctions (conj)	and, but, so, as	7.25	2.26	7.59	2.74	-1.34	.182	-.83	.16
Negations (negate)	not, no, never, nothing	1.89	1.28	1.91	1.58	-.09	.932	-.30	.27
Common verbs	is, was, be, have	18.70	3.27	18.85	4.55	-.38	.703	-.93	.63
Common adjectives (adj)	more, very, other, new	5.89	2.43	5.60	2.73	1.13	.257	-.21	.80
Quantities	all, one, more, some	3.72	2.30	3.31	2.43	1.75	.081	-.05	.88
Psychological processes									
Drives	we, our, work, us	5.67	2.90	6.89	3.91	-3.55	.000	-1.90	-0.55
Affiliation	n we, our, us, help	3.52	2.44	4.29	3.03	-2.82	.005	-1.32	-0.23
Achievement	work, better, best, working	1.11	1.24	1.39	1.64	-1.89	.060	-0.56	0.01
power	own, order, allow, power	1.09	1.38	1.24	1.71	-0.98	.328	-0.46	0.15
Cognition	is, was, but, are	13.15	4.69	12.51	4.97	1.34	.182	-0.30	1.59
All-or-none (allnone)	all, no, never, always	1.48	1.43	1.43	1.59	0.33	.740	-0.25	0.35
Cognitive processes (cogproc)	but, not, if, or, know	11.56	4.58	10.98	4.69	1.24	.216	-0.34	1.49
Insight	know, how, think, feel	2.52	1.85	2.91	2.30	-1.91	.057	-0.81	0.01
Causation	how, because, make, why	1.29	1.25	1.54	1.40	-1.90	.058	-0.52	0.01
Discrepancy (discrep)	would, can, want, could	2.15	1.53	1.84	1.84	1.79	.074	-0.03	0.64
Tentative	if, or, any, something	1.81	1.93	1.54	2.37	1.26	.209	-0.15	0.70
Certitude	really, actually, of course, real	0.59	1.05	0.32	0.71	3.07	.002	0.10	0.45
Differentiation	but, not, if, or	3.58	2.12	3.14	2.18	2.06	.040	0.02	0.87
Memory	remember, forget, remind, forgot	0.11	0.42	0.11	0.49	0.17	.864	-0.08	0.10

Affect	good, well, new, love	6.09	2.53	5.90	2.88	0.71	.478	-0.34	0.73
Positive tone (tone_pos)	good, well, new, love	3.11	2.15	2.81	2.27	1.37	.170	-0.13	0.74
Negative tone (tone_neg)	bad, wrong, too much, hate	2.80	2.11	2.93	2.52	-0.56	.577	-0.59	0.33
Emotion	good, love, happy, hope	3.01	2.03	2.91	2.36	0.49	.623	-0.32	0.54
Positive emotion (emo_pos)	good, love, happy, hope	1.02	1.13	1.05	1.48	-0.24	.814	-0.29	0.23
Negative emotion (emo_neg)	bad, hate, hurt, tired	1.79	1.78	1.70	2.06	0.48	.635	-0.29	0.47
Anxiety (emo_anx)	worry, fear, afraid, nervous	0.27	0.61	0.09	0.38	3.49	.001	0.08	0.28
Anger (emo_anger)	hate, mad, angry, frustr*	0.39	0.76	0.28	0.73	1.54	.125	-0.03	0.26
Sadness (emo_sad)	:(, sad, disappoint*, cry	0.58	0.99	0.82	1.34	-2.06	.040	-0.47	-0.01
Swear words	shit, fuckin*, fuck, damn	0.02	0.14	0.01	0.06	0.89	.376	-0.01	0.03
Social processes	you, we, he, she	22.21	5.67	27.26	6.52	-8.27	.000	-6.25	-3.85
Social behavior (socbehav)	said, love, say, care	4.15	2.46	5.42	3.11	-4.51	.000	-1.82	-0.71
Prosocial behavior (prosocial)	care, help, thank, please	0.43	0.69	0.53	0.90	-1.25	.211	-0.26	0.06
Politeness	thank, please, thanks, good morning	0.40	0.92	0.25	0.77	1.78	.077	-0.02	0.32
Interpersonal conflict	fight, kill, killed, attack	0.41	0.82	0.43	0.94	-0.21	.836	-0.19	0.16
Moralization	wrong, honor*, deserv*, judge	0.24	0.56	0.38	0.78	-2.18	.030	-0.28	-0.01
Communication	said, say, tell, thank*	1.64	1.58	2.45	2.10	-4.36	.000	-1.17	-0.44
Social referents (socrefs)	you, we, he, she	18.01	5.18	21.43	5.57	-6.35	.000	-4.47	-2.36
Family	parent*, mother*, father*, baby	2.87	2.80	3.98	3.24	-3.65	.000	-1.70	-0.51
Friends	friend*, boyfriend*, girlfriend*, dude	0.29	0.68	0.25	0.70	0.60	.546	-0.09	0.18
Female references	she, her, girl, woman	8.68	5.40	10.46	6.56	-2.95	.003	-2.96	-0.59
Male references	he, his, him, man	4.83	4.51	6.03	5.42	-2.41	.016	-2.18	-0.22
Expanded Dictionary									

Culture	car, Jordan, Hungary, USA govern*, phone	.13	.43	.15	.45	-.43	.668	-.11	.07
Politics	united states, govern*, congress*, senat*	.06	.33	.07	.30	-.18	.855	-.07	.06
Ethnicity	american, french, chinese, indian	.01	.11	.01	.08	.38	.703	-.02	.02
Tech	car, phone, comput*, email*	.06	.26	.08	.27	-.64	.525	-.07	.04
Lifestyle	work, home, school, working	2.93	2.73	2.77	2.61	.59	.556	-.37	.68
Leisure	game*, fun, play, party*	.65	1.21	.32	.80	3.24	.001	.13	.53
Home	home, house, room, bed	.79	1.05	.62	.99	1.74	.083	-.02	.38
Work	work, school, working, class	1.15	1.80	1.47	2.19	-1.57	.116	-.71	.08
Money	business*, pay*, price*, market*	.34	.77	.37	.81	-.41	.685	-.19	.12
Religion	god, hell, christmas*, church	.06	.27	.07	.28	-.48	.629	-.07	.04
Physical	medic*, food*, patients, eye*	2.15	1.96	1.90	2.12	1.23	.220	-.151	.652
Health	medic*, patients, physician*, health	.49	.92	.44	1.16	.47	.636	-.16	.26
Illness	hospital*, cancer*, sick, pain	.13	.44	.12	.51	.13	.897	-.09	.10
Wellness	healthy, gym*, supported, diet	.02	.13	.02	.17	.01	.995	-.03	.03
Mental	mental health, depressed, suicid*, trauma*	.04	.21	.09	.38	-1.66	.097	-.11	.01
Substances	beer*, wine, drunk, cigar*	.11	.40	.02	.13	3.12	.002	.03	.15
Sexual	sex, gay, pregnan*, dick	.07	.27	.05	.35	.88	.378	-.03	.09
Food	food*, drink*, eat, dinner*	.47	1.08	.28	.87	1.90	.058	-.01	.38
Death	death*, dead, die, kill	.24	.62	.27	.69	-.54	.590	-.16	.09
States									
Need	have to, need, had to, must	.48	.97	.28	.79	2.20	.028	.021	.368
Want	want, hope, wanted, wish	.64	.88	.67	1.17	-.36	.723	-.240	.166

Acquire	get, got, take, getting	.86	.94	.75	1.07	1.09	.277	-.088	.307
Lack	don't have, didn't have, *less, hungry	.13	.39	.17	.61	-.79	.431	-.140	.060
Fulfilled	enough, full, complete, extra	.09	.29	.13	.40	-1.15	.249	-.108	.028
Fatigue	tired, bored, don't care, boring	.17	.50	.17	.77	-.02	.986	-.129	.127
Motives									
Reward	opportun*, win, gain*, benefit*	.11	.36	.11	.42	-.04	.967	-.078	.075
Risk	secur*, protect*, pain, risk*	.28	.59	.27	.81	.06	.953	-.135	.143
Curiosity	scien*, look* for, research*, wonder	.21	.62	.20	.60	.25	.801	-.105	.135
Allure	have, like, out, know	6.26	2.61	7.18	3.37	-3.06	.002	-1.52	-0.33
Perception	n in, out, up, there	9.88	4.01	8.77	3.88	2.79	.005	0.33	1.88
Attention	n look, look* for, watch, check	0.43	0.76	0.41	0.77	0.28	.780	-0.13	0.17
Motion	go, come, went, came	1.86	1.51	1.30	1.36	3.86	.000	0.27	0.84
Space	in, out, up, there	5.81	2.92	5.17	3.02	2.15	.032	0.06	1.22
Visual	see, look, eye*, saw	1.56	1.64	1.25	1.50	1.94	.053	0.00	0.61
Auditory	sound*, heard, hear, music	0.26	0.63	0.37	0.74	-1.48	.141	-0.24	0.03
Feeling	feel, hard, cool, felt	0.56	0.92	0.75	1.16	-1.89	.059	-0.40	0.01
Time orientation									
Time	when, now, then, day	5.66	2.87	4.55	2.88	3.87	.000	0.55	1.67
Past focus	was, had, were, been	7.34	4.37	5.85	4.15	3.51	.001	0.66	2.33
Present focus	nt is, are, I'm, can	4.57	3.77	6.16	3.99	-4.10	.000	-2.36	-0.83
Future focus	will, going to, have to, may	1.38	1.60	1.34	1.65	0.27	.787	-0.28	0.36
Conversational	yeah, oh, yes, okay	0.09	0.28	0.13	0.55	-1.07	.284	-0.13	0.04
Netspeak	:), u, lol, haha*	0.03	0.15	0.03	0.22	-0.08	.933	-0.04	0.03
Assent	yeah, yes, okay, ok	0.05	0.19	0.10	0.51	-1.41	.161	-0.13	0.02
Nonfluencies	oh, um, uh, i i	0.01	0.09	0.01	0.09	0.45	.652	-0.01	0.02
filler	rr*, wow, sooo*, youknow	0.01	0.09	0.00	0.00	1.00	.318	-0.01	0.02
Punctuation									

All punctuation	, . ? ! ' "	14.39	4.49	13.21	6.03	2.23	.027	0.14	2.23
Periods	.	7.12	2.02	6.69	2.43	1.91	.057	-0.01	0.87
Comma	,	4.49	2.54	3.58	2.72	3.48	.001	0.40	1.43
Question Mark	?	.18	.53	.17	.72	.19	.846	-0.11	0.14
Exclamation points	!	.13	.71	.05	.27	1.54	.125	-0.02	0.19
Apostrophes	'	1.65	1.44	1.91	1.75	-1.60	.110	-0.57	0.06
Other punctuation	") (: ;	.81	1.54	.81	2.29	.00	.999	-0.38	0.38