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Assessing the production and impact of migration narratives

The influence of narratives on subsequent narratives about immigration

Individuals as Narratively Shaped Shapers of Reality

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Abstract

This report presents an analysis on the psychological impact of different narrative frames in testimonial narratives on individuals in Spain and Hungary, focusing on the domain of migration. In two large-scale, pre-registered online experiments, participants from Spain and Hungary were exposed to testimonial narratives framed in three different forms: depicting immigrants as a Profiteer, a Victim, or a Hero. The narratives were carefully crafted, varying in frame, protagonist's origin, and narrative voice, and after reading them, participants were asked to elaborate a message to share in social media (e.g., Facebook, Twitter, or Instagram). Participants' messages (i.e., subsequent narratives) were analyzed for emotional tone, linguistic style, and thematic content using tools like the Linguistic Inquiry and Word Count (LIWC) software and the NRC emotion lexicon. Results revealed that narrative frames significantly influenced participants' emotional responses and narrative constructions. In the Spanish context, the Hero frame elicited more positive emotional tones and analytical thinking, while the Victim frame induced a sense of community and shared experience. Conversely, the Hungarian responses, while showing similar trends, exhibited more uniform linguistic patterns across frames, with a pronounced focus on individual scrutiny in the Profiteer frame, manifesting a cross-cultural influence on narrative perception and construction. The studies presented here contribute to our understanding of narrative persuasion, emphasizing the power of framing in shaping cognitive and emotional responses. It underscores the need for considering cultural particularities in narrative construction, specifically in the context of migration, and open avenues for future research on narrative influence in shaping public opinion and policy.

Keywords: Testimonial Narratives, Immigration, Intergroup Relations, Framing, Natural Language, Linguistic Analyses.

1. Introduction

Narratives, as defined by Hoeken et al. (2016), are causally connected events involving characters, offering more than just entertainment; they are pivotal in cultural transmission, psychological skill development (Mar et al., 2009), and in shaping intergroup relations (Park, 2012). These narratives function as vital conduits for the transmission of knowledge, beliefs, and attitudes, significantly influencing family-intergenerational communication and broader social interactions (Pratt et al., 2008; Rimé, 2009). Their efficacy is particularly notable in representing stigmatized outgroup members, thus fostering enhanced intergroup dynamics, as theorized in intergroup contact theory (Pettigrew and Tropp, 2006; Park, 2012). This is evident in their ability to mitigate threat perceptions and promote positive attitudes towards immigrants (Igartua and Cachón-Ramón, 2023; Wojcieszak et al., 2020).

Moreover, narratives can be conceptualized within more intricate systems, such as political and social environments or broader societies, involving numerous actors and playing diverse functions (Boswell et al., 2021; Boswell and Smellie, 2023). In these complex systems, individuals are not merely passive recipients of narratives; they are actively engaged as both consumers and creators of these narratives. Recognizing the dynamic interplay between narratives and individuals, this report explores the domain of narrative persuasion, specifically analysing how migration narratives shape and influence the subsequent narratives crafted by individuals. While much previous research has analysed the characteristics of testimonial narratives through self-report measures (e.g., attitudes, beliefs, intention to help), this project focuses on a behavioural measure: the creation of a "post", which is analysed through linguistic analysis techniques. In this way, this report employs an innovative perspective in the study of narratives that has high ecological validity, as it captures a real, current behaviour that generates a variety of reactions.

1.1 Testimonials Narratives

As an integral component of Work Package 5 (WP5, referenced in Pizarro et al., 2023), this report specifically focuses on testimonial narratives. These narratives encapsulate a protagonist's life journey, delineating a before-and-after sequence (Igartua and Cachón-Ramón, 2023; Igartua and Guerrero-Martín, 2022). Testimonial narratives, with their simplicity and potency, emerge as an ideal strategy for persuasion, especially in contexts of low audience involvement (Braverman, 2008; de Wit et al., 2008). Their concise and relatable nature renders them particularly apt for modern digital platforms, including online content and social networks, offering cost-effective means for production and wide dissemination. The efficacy of testimonial narratives has been demonstrated in diverse contexts, ranging from improving attitudes towards stigmatized groups (Igartua et al., 2019; Paravati et al., 2022) to promoting health-related behaviours (Zhuang and Guidry, 2022). Hence, testimonial messages can be described as *narrative pills* in their ability to encapsulate impactful stories (e.g., Igartua and Guerrero-Martín, 2022).

While testimonials are indeed potent tools for social change, their application and impact in various contexts warrant thorough exploration. Testimonials can trigger a range of psychological effects in the audience, impacting their emotions and cognitions (e.g.,

Wojcieszak et al., 2020). However, the extent and boundaries of these effects are not fully delineated, as highlighted by Pizarro et al. (2023). In essence, it becomes crucial to analyse the specific conditions and contexts in which these effects manifest.

Furthermore, the interaction with narratives on online social media introduces additional complexities. In this digital milieu, individuals constantly oscillate between being recipients and creators of narratives. For example, engaging with migration testimonials on platforms like Facebook, Twitter (now X), Instagram, or other media outlets often leads to the creation and sharing of subsequent content (i.e., narratives). This user-generated content, however, presents challenges in achieving balance, peer review, or control (Winterbottom et al., 2008), adding layers of complexity to understanding the impact of testimonials on human behaviour.

Despite various efforts to assess the effects and mechanisms of testimonials (e.g., Igartua et al., 2019; Watts et al., 2023), there remains a gap in systematic analysis concerning the influence of testimonial narratives on subsequent individual-level narratives. Specifically, this pertains to the dual role of the individual as both recipient and creator of narratives.

1.1.1 Testimonials' factors and effects

The persuasive efficacy of testimonial narratives is attributable to a range of dynamic psychological processes. These include identification with characters, emotional engagement, and cognitive elaboration, which collectively contribute to the narrative's impact (Igartua, 2010; Igartua and Cachón-Ramón, 2023; Wojcieszak et al., 2020). The field of narrative persuasion is multifaceted, delving not only into the potential effects of narratives but also into understanding the mechanisms and conditions under which these effects are manifested. This involves a nuanced exploration of the boundary conditions that influence narrative impact (Green, 2021).

Empirical research in this area has scrutinized various narrative devices, such as framing and group cues, including details like the protagonist's origin. These elements interact in complex ways to shape the persuasive power of a narrative (Chen and Bell, 2022). Framing, a critical narrative device, is characterized by the selective emphasis of certain aspects within a text. This deliberate highlighting of elements plays a significant role in influencing the emotions and cognitions of the recipients (Entman, 1993). Through framing, a testimonial narrative can strategically focus the reader's attention on specific story elements. This focus aims to intensify the reader's emotional response or modify their psychological proximity to the characters. In fact, the effects of framing have been corroborated in news about immigration (e.g., Brader et al., 2008) and likewise, testimonial narratives about immigration can be framed differently (see Pizarro et al., 2023).

Additionally, more subtle cues, such as the protagonist's country of origin, play a pivotal role in persuasion. They reflect the significant influence of our social cognition processes in information processing (Mackie et al., 2000; Smith and Mackie, 2016). Furthermore, the choice of narrative voice or point of view in the testimonial, whether it be first or third person, has been demonstrated to be effective in enhancing persuasion (Chen and Bell, 2022; Christy, 2018). However, as evidenced by the research conducted as part of this Work Package (Pizarro et

al., 2023), we find that in the context of migration-related testimonials, it is the framing of the story that predominantly determines the narrative's effect on individuals.

Focusing on the effects that testimonial narratives exert on various psychological reactions enhances our understanding of these narrative tools. To begin with, abundant research shows how testimonials initiate a process of narrative transportation (e.g., Green and Brook, 2002) or identification with the protagonist (e.g., Cohen, 2001; Igartua, 2010); importantly, these processes trigger subsequent ones, such as cognitive and emotional effects (see Pizarro et al., 2023). In fact, past research underscores the critical role of cognitive processes in interpreting and processing the information presented in testimonials. The reception of these narratives demands cognitive engagement, initiating processes like elaboration and counterarguing. These cognitive activities are instrumental in either amplifying or diminishing the persuasive power of the narratives (Igartua and Guerrero-Martín, 2022). Moreover, the engagement with testimonial narratives often triggers a spectrum of intense emotions (Watts et al., 2023), which, in turn, can significantly influence subsequent attitudes and behaviours (Pizarro et al., 2023; see also Lecheler et al., 2015). Crucially, these psychological reactions – or mechanisms – that arise from reading testimonials can be examined not only through standardized scales but also by analysing the content of the narratives that people subsequently produce. However, research that delves into the natural language resulting from varying frames of testimonials remains scarce, which is particularly relevant considering that writing a comment after reading a testimonial is indeed a behavioural response through which narratives can be analysed.

With the aforementioned context in mind, the research presented in this report encapsulates key findings that aim to bridge a gap in the existing literature on narrative persuasion and the specific effects of testimonials. This study delves into the content, emotional, and cognitive impacts of narrative testimonials on individuals' subsequent narratives in Spain and Hungary. Our approach centres on natural language processing analyses (Pennebaker et al., 2002), thereby contributing to the understanding of the more subtle effects of testimonials. By exploring the narratives generated by individuals, we seek to unravel the intricacies of what is transmitted through these narratives. This approach allows for a deeper comprehension of the continuous cycle of narrative effects on people's lives, particularly in the context of migration (Boswell et al., 2021). Additionally, we explore the process of creation and transmission of immigration narratives. This is because the testimonial (e.g., created by an NGO or an immigrant who publishes something of his life on social networks) reaches an audience that is impacted by it (e.g., processes and mechanisms) and that, in turn, can stimulate diverse behaviours: sharing the narrative or commenting on it. Thus, specific feedback is generated which help explaining how the testimonials are created and disseminated, first, and then, how they impact diverse audiences who create subsequent narratives.

1.2 Testimonial Messages' Frames and Contexts

There is a wealth of literature examining how migration-related narratives influence our lives, with numerous studies delving into the psychological effects of migration news at different levels of analysis. The way information is presented in the media (i.e., how it is framed) subtly yet persistently influences how individuals process and attend to this information. The media plays a pivotal role in shaping, maintaining, and evolving narratives over time. Given the impact

of narratives on our psychology, individuals are continuously influenced by and concurrently contribute to the shaping of these narratives (Boswell et al., 2021; see also Brader et al., 2008).

Recent research has predominantly concentrated on the central processes and effects elicited by testimonial messages (Igartua et al., 2019). However, it is crucial to acknowledge that the framing of these testimonials can vary significantly (Pizarro et al., 2023). Such variations can encapsulate different scenarios and their subsequent impacts on everyday life, ranging from responses to a testimonial to engaging in discussions about it. Testimonials may, for instance, portray a government's initiative to foster positive attitudes towards immigrants, exemplified by narratives focusing on overcoming hardships. Alternatively, they might echo the endeavours of a xenophobic online group intent on provocation or deception, as seen in narratives emphasizing the misuse of welfare social programs. This concept mirrors the approach in studying narrative-related news, where the effects of narrative framing are analysed through diverse methods and forms.

Moreover, the framing of testimonials is likely intertwined with the dominant narratives within a specific context. Studies in news analysis have demonstrated that the framing of news stories and the context of their recipients can yield varying effects. An illustrative example is the association between a higher frequency of negatively framed migration-related news and increased perceptions of group threat in areas with fewer immigrants (Schlueter and Davidov, 2013). Consequently, it is reasonable to hypothesize that testimonials framed in a more threatening manner could evoke specific emotional responses. These emotions might then mediate the formation of attitudes (Lecheler et al., 2015) and influence policy decisions, such as the heightened immigration restrictions in Europe during recent economic downturns, which affected even highly skilled immigrants (Cerna, 2016).

Public perceptions and expressions about immigration are shaped by a multifaceted interplay of social processes, involving diverse actors like the media and the public, and varying situations, such as economic crises and unemployment. In the context of narratives, it is imperative to explore how individuals respond to different frames of immigration-related narratives in an unstructured manner. This necessitates the use of methodologies that subtly uncover people's authentic emotions and the specific contexts they are engaged in. Furthermore, these perceptions are influenced by contextual factors, including geographic area characteristics.

Returning to the objectives of this Work Package, it is pertinent to apply methodologies that subtly detect the more implicit effects of testimonials. These methods should be adaptable to different contexts, as variations in such contexts have been associated with differing perceptions of immigration by native populations (Meuleman et al., 2009). The following section will introduce the application of natural language processing as a methodology for investigating the psychological impacts of various testimonial narrative frames on individuals' narrative production across contexts.

1.3 Natural Language and Psychological Features

The field of psychology has long been intrigued by the rich insights that our verbal expressions offer about our psychological motivations, emotions, and cognitive processes. This fascination is rooted in the understanding that both the content and the manner of our expressions are windows into our emotional and cognitive world, as well as our behaviour (Frijda et al., 1995; Hupka et al., 1999). The basic premise of this perspective is that language, in all its facets, serves as a reflection of our inner psychological landscapes.

Historically, various methodologies have been employed by researchers to decode the psychological implications of people's written or spoken words. Boyd and Schwartz (2021) provide comprehensive reviews of these approaches, tracing the evolution of techniques used in psychological analysis through language. In recent years, the advent of advanced computational methods has revolutionized this field. These methods enable intricate text analyses, offering profound insights into individuals' psychological worlds, as highlighted in the pioneering work of Pennebaker and colleagues (Pennebaker et al., 2001, 2002, 2015). Their research illustrates how our everyday language choices can be revealing indicators of our emotional and cognitive states.

One of the intriguing findings from Pennebaker and colleagues' research is the significance of function words, such as pronouns and prepositions. Although these words are often processed automatically and may go unnoticed, they can convey substantial information about our psychological state. For example, the frequency of using first-person plural pronouns (e.g., 'we') as opposed to third-person singular pronouns (e.g., 'he' or 'she') can signify a sense of affiliation or community. Conversely, a heightened use of first-person singular pronouns (e.g., 'I') might suggest individual focus or even psychological distress.

Furthermore, the analysis of emotional content in language has also proven insightful. The prevalence of positive emotion words typically indicates a more optimistic, socially connected individual, while the frequent use of negative emotion words can point to someone dealing with stress, anxiety, or health issues. Moreover, from a cognitive standpoint, the use of words related to causation and insight, such as 'because' or 'understand', can reflect a person's level of cognitive complexity. This is especially pertinent in social psychology, as it can reveal how individuals engage in constructive thinking and problem-solving. The use of such cognitive process words helps to gauge an individual's engagement with their environment, their propensity for reflective thinking, and their ability to navigate complex social scenarios (Boyd and Schwartz, 2021; for example, see Garcia and Rimé, 2019).

In addition to these aspects, the evolution of natural language processing technologies has further enabled the dissection of subtle linguistic patterns. Linguistic can discern not just the obvious content of communication but also the underlying themes, the shifts in tone, and the nuances that might escape human detection (see Mohammad and Turney, 2010). For instance, changes in linguistic style over time can indicate shifts in social identity, changes in group dynamics, or the development of certain psychological conditions. Such analyses pose an immense value for the study of narratives and help us obtain a better comprehension on the dynamics that influence them. In the context of the work presented in this Work Package, this aspect is considered innovative due to the scarcity of these analyses in the creation of

post on a testimonial; even more, considering that the present studies have an experimental design to evaluate various frames related to immigration.

2. Objectives and Hypotheses

The present report explores how narratives about immigration influence the creation of subsequent narratives. Specifically, how work-related immigration testimonials affect the messages created by the readers of these narratives in terms of their content, emotionality, and linguistic styles.

Through two fully pre-registered online experiments, we evaluate how people engage, reflect and express themselves narratively, after reading narratives portraying immigrants as a) welfare profiteers (i.e., profiteer frame), b) victims of exploitation (i.e., victim frame), or as c) heroes overcoming challenges (i.e., hero frame). Specifically, we evaluate whether these frames can produce an impact on subtle and often outside-the-awareness indicators, such as what people write and how they do it. Based on a word count strategy (Pennebaker et al., 2002), we will analyse the possible effects of each of the frames (i.e., profiteer, victim and hero) on different psychological processes manifested in a writing task. Particularly, on how each reading might affect recipients' way of thinking (e.g., analytical and cognitive complexity), social interests (e.g., 3rd person perspective and awareness, affiliation drives), affectivity (i.e., emotional tones and particular emotions) (Tausczik and Pennebaker, 2010), as well as manifestations of stereotype content (e.g., morality and competence) (Nicolas et al., 2021). Importantly, the nature of the hypotheses in these analyses are exploratory, indicating a deductive approach to data analysis and presentation of the results.

2.1 Overview of the Studies

This report is the second part of the divulgation reports conducted in the context of WP5. It includes, in a joint manner, the main results of two online experiments conducted in Spain and Hungary. Specifically, it focuses on the creation of messages about the narratives participants read in two different cultural contexts where host-immigrant relations and attitudes vary to a large extent (Cea D'Ancona, 2007; Meuleman et al., 2009).

3. Experiments in Spain and Hungary

3.1 Method

3.1.1 Participants and procedure

We present here two online experiments relying on large samples of participants from Spain (*N* = 1502 participants; ages 18-88; *M* = 43.35; *SD* = 13.46) and from Hungary (*N* = 960 participants; ages 18-80; *M* = 41.45; *SD* = 13.64). In both samples, participants were autochthonous people (i.e., participants and their parents were born in their respective

countries). In the Spanish sample there were 740 men and 759 women (and 3 people who defined themselves as non-binary or third gender); in the Hungarian sample, there were 461 men and 497 women, (and 2 people who did not want to indicate their gender). The participants were recruited through *Qualtrics* and their demographic characteristics were a) from all regions of each country, and b) as similar as possible to the national representative demographics in terms of gender, age, work status and educational level.

Participants were asked to read a testimonial narrative describing the work-related story of an immigrant in their country and took them, on average, 15.3 minutes (*SD* = 7.38 minutes). The narratives (Table 1) were specifically designed to be similar excepting three elements: the narrative frame of the message (3 options: Profiteer, Victim or Hero), the origin of the protagonist (2 options: High vs Low stigma), and the narrative voice used to tell the story (2 options: 1st person vs 3rd person). This way, we created 12 possible scenarios, and each participant was randomly assigned to one of them. Importantly, we adapted the group cue (i.e., the origin of the protagonist) to match high and low levels of stigma appropriately for the Spanish – Said from Morocco and Edison from Ecuador, respectively – and the Hungarian – Ahmed from Syria and Oleh from Ukraine, respectively – samples.

Table 1. *Simplified Version of the Testimonials for each Frame Manipulation.*

Profiteer frame	Victim frame	Hero frame
My name is [protagonist's name], I'm from [protagonist's country]. I'm going to tell you about my life.	My name is [protagonist's name], I'm from [protagonist's country]. I'm going to tell you about my life.	My name is [protagonist's name], I'm from [protagonist's country]. I'm going to tell you about my life.
(…)	(…)	(…)
…The site manager offered me 8 hours a day with the possibility of overtime and night shifts… **However**, it seemed to me that it was **too many hours** and that **it was a very heavy job**.	…The site manager **always looked down on me** (…) and **made a lot of jokes**... he told me that those were the conditions and if I didn't like it, I knew where the door was.	…It was hard work, yes, **but I always worked hard**. In addition, **I learned a lot** and thanks to that, he **put workers under me to teach them** the job, and they quickly learned how to work.
(…)	(…)	(…)
In the future, (…) and continue to **receive some social benefits** (…)	In the future, (…) to have **a job with better working and financial conditions** (…)	In the future, (…) to **continue my training** to **get a better job** (…)

Note. This simplified version shows the first-person narrative voice for each of the narratives used in both experiments. The information concerning the names (Said/Ahmed vs Edison/Oleh) and the countries (Morocco/Syria vs Ecuador/Ukraine) indicates the group cue manipulation (i.e., high vs low stigma, for Spanish and Hungarian participants, respectively). Bold information in the excerpts help visualizing differences concerning the frame manipulation. Source: own elaboration.

To see all the materials used including the data and syntax, readers can access our Supplemental Online Materials (SOM) at: https://osf.io/pn94w/?view_only=bbb52ca2d0724ab1a574b324adc48bd6. These materials additionally include the results of two pilot studies, which evaluate the narratives created for comprehension and understanding in each sample.

3.1.2 Measures

All the scale used in the two experiments can be seen in the SOM and, in addition, in Pizarro et al. (2023)[1]. Here, we will report only those concerning participants' demographic and the narrative task participants completed.

Demographics. Before the random assignation to the experimental conditions, participants answered several demographic questions concerning their birth country – as well as their parents' –, their age, gender, educational level, political ideology, and region of residence. Subsequently, the participants were randomly assigned to one of the 12 possible testimonials.

Message to Share in Social Media (Ad-hoc). After having read the testimonial, participants were asked to elaborate a message about the narrative they read that could be shared in a social media platform, such as Facebook or Twitter, (maximum length, 280 characters). In the instructions, participants were encouraged to think in a scenario in which other people could read these messages.

3.1.3 Data Analysis

Several analyses were conducted to explore the content of the messages created by each participant. First, we explored the most repeated terms using *R* (R Core Team, 2014) with *RStudio* (RStudioTeam, 2015), and analysed the emotionality that could be extracted from each message with the package *syuzhet* (Jockers, 2017). This package uses an emotional lexicon (i.e., NRC) (Mohammad and Turney, 2010) and attributes an emotional score to words mapping 7 emotions/emotional reactions: anger, anticipation, disgust, fear, joy, sadness, surprise, and trust.

Subsequently, we used the Linguistic Inquiry and Word Count (LIWC) software (Pennebaker et al., 2002; Tausczik and Pennebaker, 2010). Similarly, as the NRC lexicon, this software uses a frequentist approach to recognize a variety of categories derived from messages. Among them, function words, psychological processes, or ways of thinking (Pennebaker et al., 2002), as well as a dictionary specifically created to apply the stereotype content model (Fiske et al., 2002), which evaluate objects – in this case, the message written by participants – in terms of morality (i.e., previously known as warmth) and ability (i.e., competence) (Nicolas et al., 2021).

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[1] Due to space limitations, this report does not extend in the effects of narrative voice and stigma derived from the narratives. Nonetheless, the reader could find these and more analyses in the SOM and in Pizarro et al. (2023).

All messages created were automatically translated from Spanish and Hungarian (autochthonous participants from Spain and Hungary, respectively) into English. This form, we were able to apply the original versions of the lexicons (NRC and LIWC English dictionary), as well as the stereotype content model dictionary. In order to apply the full LIWC dictionary as well as the stereotype content model, we automatically translated all the messages created by participants into English.

3.2 Results

3.2.1 Content-related analyses: What messages communicate

Analysing the content of messages created by participants allows us to observe the effects of frame manipulation, distinguishing three frames within the testimonials: Profiteer, Victim, or Hero. These distinctions manifest in the terms participants most frequently employed in their messages.

In the Spanish (referenced in Figure 1 and Table 2) and Hungarian (Figure 2, Table 3) samples, participants exposed to the Profiteer frame often commented on the injustice and moral deficiencies of the protagonist. In various instances, participants created messages expressing vehement disagreement and anger towards a protagonist perceived as exploiting the host nation, highlighting his moral shortcomings. Conversely, participants from both countries frequently used terms related to the welfare benefits acquired by the protagonist. Notably, the words 'aid' and 'benefits' emerged as the most probable mentions among participants in the Profiteer frame, in contrast to the other two frames (as seen in Figure 3).

Regarding the messages from those assigned to the Victim frame, a different focus emerged. Participants from both countries conveyed negative emotions (e.g., sadness and occasionally anger) in their messages following exposure to the Victim frame testimonial. A significant portion of participants in this condition perceived the situation as profoundly unjust. However, in the Hungarian cohort, messages also reflected opposition to immigration. While acknowledging the injustice and sorrow of the narrative, these participants often shifted focus to either their country's plight or that of fellow Hungarians. For instance, they referenced challenges that fellow Hungarians – or they themselves – faced in securing employment, or they voiced opposition to immigration. This pattern is also observable in Figure 3, where a higher incidence of the word 'sad' is coupled with a more frequent mention of 'Hungary' among Hungarian participants.

In the case of participants assigned to the Hero frame, there was a higher likelihood of encountering words associated with overcoming challenges. Many participants commented admiringly on the protagonist's life journey, from leaving his homeland to earning a livelihood, often expressing positive emotions like admiration or joy. Yet, as in the Victim frame, Hungarian participants were prone to express generalized anti-immigrant sentiments. For example, some acknowledged the positive nature of the testimonial but maintained that most immigrants did not mirror the protagonist's story. A considerable portion of participants manifested overall negative views towards immigration in Hungary.

From a comparative perspective, the analysis of the most frequently used terms (Figure 3) indicates a predominantly positive tone in messages from participants in the Hero condition. A substantial number acknowledged the protagonist's achievements, using terms like 'overcoming', 'admirable', or 'exemplary'. However, this trend was more pronounced in the Spanish sample.

Figure 1. *Most Repeated Terms used in Participants' Messages across Narrative Frames (Spain, N = 1502).*

Note. The size of the words in the upper part of each wordcloud (darker color) indicate the frequency of appearance of each term compared against the other two frames (in light color, bottom part). Reference frames are the Profiteer (left), Victim (center), and Hero (right). Source: own elaboration.

Table 2. *Most Repeated Terms and Examples of Messages by Frame Manipulation (Spain, N = 1502).*

Rank	Profiteer condition (n = 485)		Victim condition (n = 503)		Hero condition (n = 514)	
	Term	Freq.	Term	Freq.	Term	Freq.
1	work	133	people	146	people	262
2	story	127	story	129	story	256
3	aid	125	immigrants	119	immigrants	208
4	people	116	country	103	work	205
5	think	95	many	86	country	189
	Number of terms' $M = 26.2$ and $SD = 22.0$		Number of terms' $M = 25.6$ and $SD = 23.0$		Number of terms' $M = 23.0$ and $SD = 20.6$	

Examples of the messages created

"I find Said's attitude shameful. That's the way Spain is going with people like him. Living off all the subsidies that all of us Spaniards pay. We are creating a bunch of bums. Immigration with a work contract. Whoever comes here should come to work. Not to live on subsidies."

"This story seems to me real. If they get here and give them financial aids because they never want to leave the back as we do the Spaniards."

"I have read this message carefully and I have truly believed that this is happening in Spain, more importance is being given to [immigrants] and while the Spaniards are [having] all those works that they do to you to be able to go forward and our families as the story says. Most immigrant people are taking advantage of and living with charity quietly."

"It is very sad, since the procedures are very slow and there are employers who do not respect the workers and abuse the immigrant because of his situation, I believe that whoever is here legally has the same rights and duties as those of us who are natives."

"It has to be very hard to leave family and roots, to look for a more just and dignified life, and meet when they arrive at destination with nostalgia but with illusion, with so much neglect and difficulties just because they are from another place."

"They should report, imprison people and entrepreneurs who abuse the immigrant. The Spanish state should control this kind of actions and facilitate the regulation and documentation of immigrants who, as Said only seek and honestly work and be a good person."

"Said's story reminds us how hard it is to leave a country, a life full of illusion and dreams. It must be really complicated to leave everything you have built and start from scratch in a new country, with different cultures and ideas. I admire people who are able to leave everything for a better life."

"I think that leaving aside [each ethnicity], the overcoming of this person is to admire and especially the message with what was left is that if he could [I also can] and also that with effort everything can be achieved."

"It is a possible but unlikely story. These overcoming stories usually have a lot of advertising but not the opposite stories where immigrants create numerous problems."

Note. Freq. indicates the total frequency of appearance from all narratives created across the frames. The information about the protagonist was Said (from Morocco) and Edison (from Ecuador).

Figure 2. *Most Repeated Terms used in Participants' Messages across Narrative Frames (Hungary, N = 960).*

Note. The size of the words in the upper part of each wordcloud (darker color) indicate the frequency of appearance of each term compared against the other two frames (in light color, bottom part). Reference frames are the Profiteer (left), Victim (center), and Hero (right). Source: own elaboration.

Table 3. *Most Repeated Terms and Examples of Participants' Messages by Frame Manipulation (Hungary, N = 960).*

Rank	Profiteer condition (*n* = 288)		Victim condition (*n* = 304)		Hero condition (*n* = 352)	
	Term	Freq.	Term	Freq.	Term	Freq.
1	work	101	story	74	story	109
2	story	68	people	71	people	78
3	people	58	immigrants	60	immigrants	65
4	immigrants	51	Hungary	48	work	55
5	live	45	country	47	country	50
	Number of terms' *M* = 23.9 and *SD* = 32.1		Number of terms' *M* = 22.8 and *SD* = 24.4		Number of terms' *M* = 21.5 and *SD* = 24.7	

Examples of the messages created

"Oleh was simply too lazy to work and wanted to rely only on grants and loans. Unfortunately, everyone has to work for a living."	*"It is very sad, those who live and work properly and diligently deserve a decent living and a welcoming environment. Hungarian and immigrant alike!"*	*"Let this be an example to those who lump them together. Some people do try to fit in, some are able to achieve their own goals. Yes, the culture is different, but you can fit in. It is also true that many of us experience bad things, but there are exceptions."*
"I think that this story is a great example of how migrants take advantage of the benefits and how they abuse the benefits that the state gives them. This is disgusting behaviour and it is not acceptable for any human being to behave in this way, especially when they are in a foreign country."	*"This is a very topical story. He is not unique. But I must admit, he should not have come to Hungary. It is the same with Hungarians. There is no solidarity among the Hungarian people. They are doing the same thing to us. From this point of view, the character learned what it is like to be Hungarian."*	*"Ahmed's story is one of the rare exceptions, but I am glad that there are such exceptions and maybe all is not lost."*
"People come here in the hope of a better living - to work, so to speak - but they don't seem to really want to, they just want to get the benefits but work stinks for them, and the only way people here can make a living is to work."	*"Very thought provoking story. Sad but in this world we live in this country. Just because someone is not Hungarian should not be discriminated against. But migrants should not be allowed in unconditionally!!!"*	*"It's good to see that there are positive people like you and I really feel sorry for them. Unfortunately, most immigrants are not like Oleh. If everyone would set such an excellent example, I am sure people would have a different attitude towards immigrants."*

Note. Freq. indicates the total frequency of appearance from all narratives created across the frames. (*) The information about the protagonist was Ahmed (from Syria) and Oleh (from Ukraine).
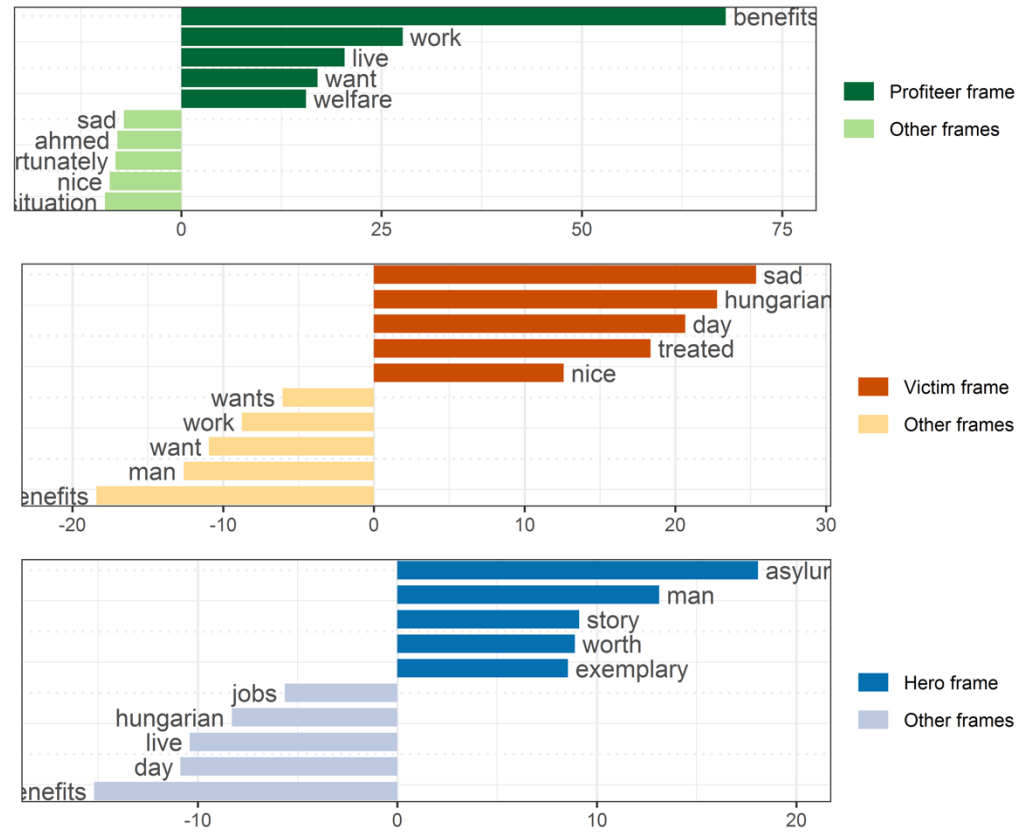
Figure 3. *Probability of Using a Term across Frame Manipulation in Spain and Hungary.*
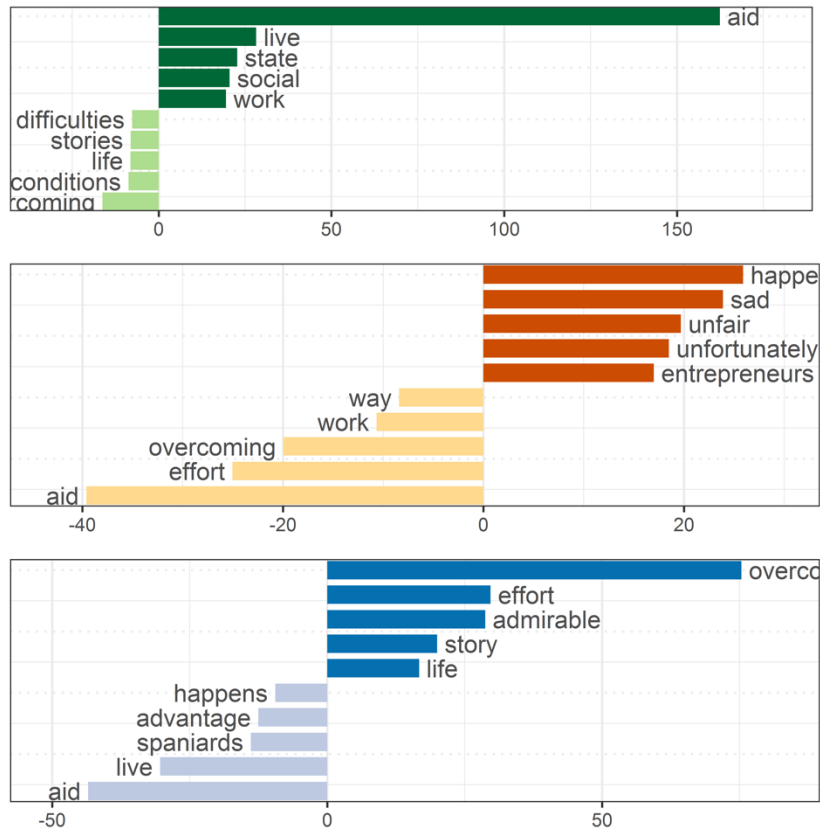
Note. The bars indicate the chi-square probability (all values $p < .05$) of term appearance in participant's messages given frame manipulation in the Spanish (column A) and Hungarian (column B) samples. Source: own elaboration.

3.2.2 Messages' emotionality and linguistic styles

Besides analysing the content of the messages (i.e., what the topic, issues or approaches found in the messages), we conducted emotional and linguistic analysis and took into consideration the frame each participant was assigned to. With these approaches, we were able to extract an indirect measure of the emotions that participants transmitted and, additionally, several psychological processes that participants engage to.

Emotional analyses, first, can be seen in Figure 4. This figure summarizes the types of affect (i.e., positive and negative) and 8 emotional categories that were identified in the messages of participants from each frame manipulation. As it can be seen, in panel A, representing the Spanish sample, the type of affect is categorized into negative and positive. The bars indicate that messages from the Victim frame exhibit the highest level of negative affect, followed closely by the Profiteer frame, and the Hero frame shows the least. Positive affect is most pronounced in the Profiteer frame, followed by the Hero and Victim frames, respectively. In the bottom section of panel A, there is a more detailed breakdown of specific emotions showing varied levels of anger, anticipation, disgust, fear, joy, sadness, surprise, and trust. The Profiteer frame is associated with lower levels of trust and anticipation. The Victim frame shows higher levels of sadness and fear, whereas the Hero frame is characterized by significantly higher levels of anticipation, joy and trust.

In Panel B, for the Hungarian sample, the patterns are somewhat similar in terms of negative and positive affect across the three frames, with the Victim frame again having a higher negative affect (closely followed by the Profiteer and Hero frames) and the Profiteer frame showing a higher positive affect, followed by the Hero and Victim frames. However, the levels of affect in the Hungarian sample are generally lower than those in the Spanish sample.

The breakdown of specific emotions in the Hungarian sample reveals a pattern similar to the one found in the Spanish sample in the intensities of anger, disgust, fear and sadness. The Victim frame elicits more sadness and fear, but less so than in the Spanish sample. Notably, the Hero frame in the Hungarian sample has a less pronounced level of joy compared to the Spanish sample, yet it still maintains the highest level of joy across the three frames. Interestingly, and while trust is relatively equal across all frames, the higher level found was in the Profiteer condition, as well as with anticipation.

Figure 4. *Type of Affect and Emotions in the Narratives created by Participants.*
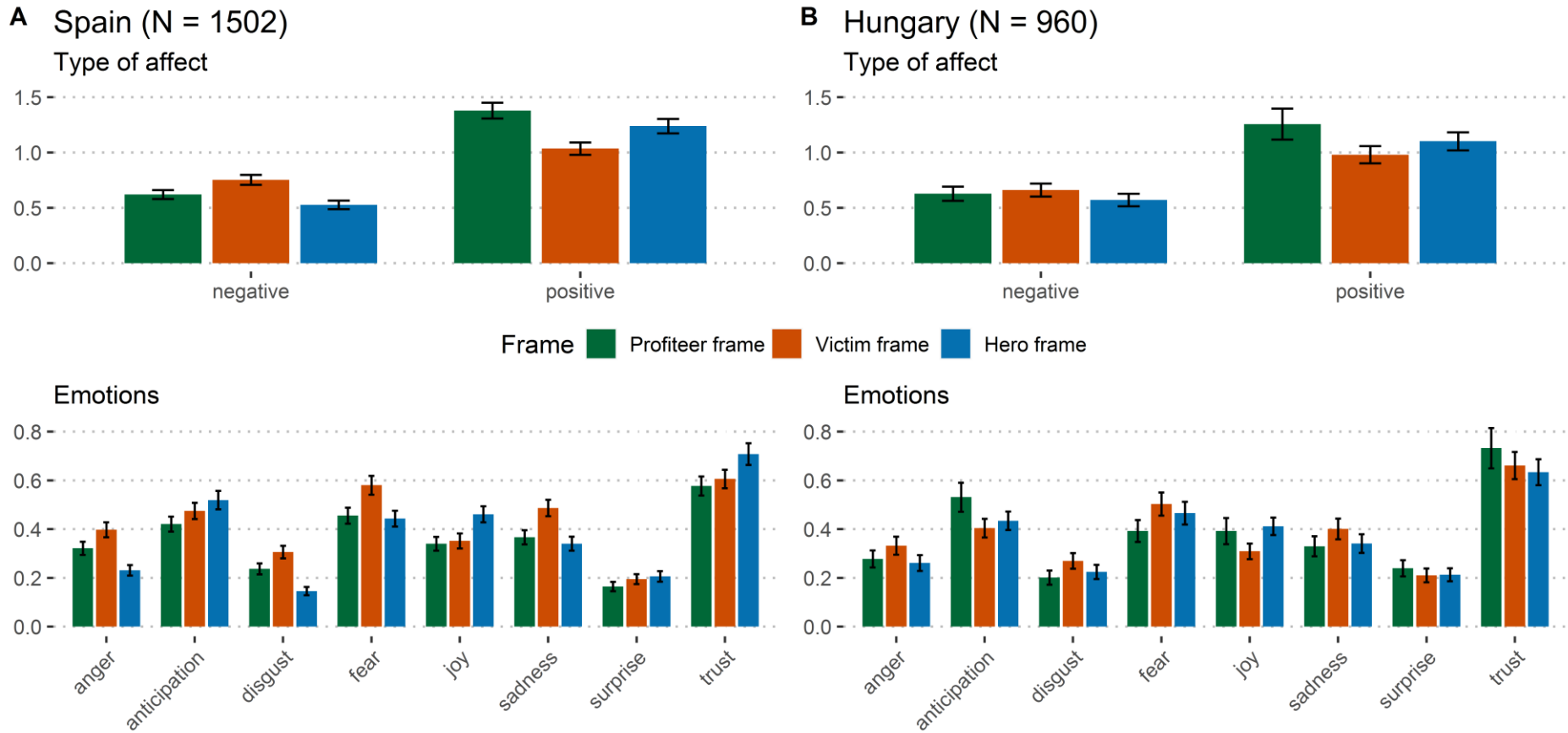
Note. Mean scores of the emotions derived from participants' messages in the Spanish (column A) and Hungarian (column B) samples. Bars represent 95% confident intervals around the mean, to make visual comparisons –if there is no overlap between the error bars and the mean of another group it indicates a difference of at least *p*-value < .05 (Cumming, 2013). Source: own elaboration.

Concerning the linguistic analyses of the messages in the Spanish sample (Table 4), a complex array of language use unfolds, reflecting the nuanced ways in which participants engaged with the different frames they read. The narratives created from participants assigned to the Hero frame showed the highest levels of word use for analytical thinking, suggesting a structured and logical approach to storytelling that delineated clear paths of reasoning and conclusion. This frame manipulation produced the most positive messages (i.e., emotional tone), which likely resonated with themes of triumph and admiration.

Contrastingly, the messages created from participants assigned to the Victim frame conveyed, overall, a sense of community and shared experience. The language used here was abundant in with words of affiliation (e.g., in terms of the use of 1st person plural or affiliation drives), evoking a collective identity and mutual bonds. It suggested a narrative that empathized with group experiences, highlighting shared struggles and social connections. In terms of authority and leadership, the Victim frame's language exuded a greater sense of clout, possibly reflecting a narrative voice that often assumes a position of moral leadership and status, advocating on behalf of the collective.

Finally, the analyses of messages from the Profiteer frame presented a more complex sentence structure, indicative of a nuanced and perhaps a more critical style. This frame also utilized a broader vocabulary with longer words, which might reflect a more formal or elaborate expression of ideas. Interestingly, across all frames, the use of third-person singular pronouns was more prevalent in the Hero frame, perhaps pointing to a narrative style that places the protagonist as a focal point of the story, distinct from the narrator or the audience.

When it came to conveying notions of morality and ability, derived from the Stereotype Content Model dictionary, we observe that Profiteer and Victim frame participants articulated a greater amount of words from the Morality dimension (lower attribute) and Ability (high attribute). This suggests these participants manifested a greater concern with ethical judgments (e.g., immoral, insincere, unfair) and the capabilities (e.g., able, competent, intelligent) either of the individuals or the situations protagonists faced within these narratives.

The overarching linguistic patterns that emerged in these analyses indicate distinct emotional and cognitive resonances evoked by each frame. The Hero frame's messages were characterized by optimism and individual achievement, the Victim frame by collective experiences and moral overtones, and the Profiteer frame by a complex, critical, and perhaps a more detached narrative stance.

Table 4. *Language Dimensions detected in Participants' Narratives (Spain, N = 1502).*

Category	Description/Examples	Frame Manipulation *M(SD)*			Comparison
		Profiteer	Victim	Hero	
Summary Variables					
Analytical thinking	Metric of logical, formal thinking	47.71(35.05)[a,b]	42.54(34.70)[a]	51.12(36.96)[b]	$F(2, 1499)= 7.47$, $p = .001$, $\eta^2 = .010$
Clout	Language of leadership, status	36.16(33.79)[a]	46.40(36.39)[b]	45.29(35.70)[b]	$F(2, 1499)= 12.45$, $p < .001$, $\eta^2 = .016$
Authentic	Perceived honesty	47.56(37.51)[a,b]	49.72(38.01)[b]	42.84(39.04)[a]	$F(2, 1499)= 4.31$, $p = .014$, $\eta^2 = .006$
Emotional tone	Degree of positive (negative) tone	36.95(34.47)[a]	32.46(34.98)[a]	52.02(38.52)[b]	$F(2, 1499)= 41.03$, $p < .001$, $\eta^2 = .052$
Words per sentence	Average words per sentence	19.80(16.07)[b]	18.29(13.78)[a,b]	17.42(13.94)[a]	$F(2, 1499)= 3.38$, $p = .034$, $\eta^2 = .004$
Big words	Percent of words 7 letters or longer	17.89(14.81)[a]	19.91(13.21)[a,b]	20.82(16.57)[b]	$F(2, 1499)= 5.01$, $p = .007$, $\eta^2 = .007$
Dictionary words	Percent words captured by LIWC	87.30(12.02)	86.49(13.00)	87.89(10.51)	$F(2, 1499)= 1.79$, $p = .168$, $\eta^2 = .002$
Linguistic Dimensions					
Personal pronouns	I, you, my, me	7.31(6.05)[a]	8.35(7.95)[b]	7.69(6.90)[a,b]	$F(2, 1499)= 2.79$, $p = .061$, $\eta^2 = .004$
1st person singular	I, me, my, myself	3.09(4.73)	3.17(6.50)	3.22(5.89)	$F(2, 1499)= 0.06$, $p = .941$, $\eta^2 < .001$
1st person plural	We, our, us, lets	0.84(2.43)[a]	1.76(4.29)[b]	0.77(2.43)[a]	$F(2, 1499)= 15.02$, $p < .001$, $\eta^2 = .020$
2nd person	You, your, yourself	0.98(2.84)	0.91(2.78)	0.81(3.06)	$F(2, 1499)= 0.45$, $p = .635$, $\eta^2 = .001$
3rd person singular	He, she, her, his	0.64(1.99)[a,b]	0.45(1.73)[a]	0.92(2.52)[b]	$F(2, 1499)= 6.26$, $p = .002$, $\eta^2 = .008$
3rd person plural	They, their, them, themselves	1.00(2.27)	1.32(2.75)	1.09(2.62)	$F(2, 1499)= 2.05$, $p = .129$, $\eta^2 = .003$
Psychological Processes					
Drives	We, our, work, us	6.20(7.81)	6.29(7.41)	7.17(9.83)	$F(2, 1499)= 2.02$, $p = .134$, $\eta^2 = .003$
Affiliation	We, our, us, help	1.82(3.82)[a]	2.89(6.13)[b]	1.44(3.26)[a]	$F(2, 1499)= 13.61$, $p < .001$, $\eta^2 = .018$
Achieve	Work, better, best, working	3.41(6.73)[b]	2.11(3.85)[a]	4.71(9.23)[c]	$F(2, 1499)= 17.61$, $p < .001$, $\eta^2 = .023$
Power	Own, order, allow, power	1.37(2.89)	1.51(3.15)	1.16(3.53)	$F(2, 1499)= 1.52$, $p = .220$, $\eta^2 = .002$
Stereotype Content Model					
Sociability	Sociable, unfriendly, cold, liked	270.73(640.07)	229.92(615.89)	238.10(664.23)	$F(2, 1499)= 0.56$, $p = .572$, $\eta^2 = .001$
Sociability (direction)	Indicates low or high attribute	-10.38(93.97)	-17.11(108.00)	-13.21(119.28)	$F(2, 1499)= 0.49$, $p = .615$, $\eta^2 = .001$
Morality	Moral, untrustworthy, insincere, fair	470.51(665.27)[b]	396.07(592.62)[b]	300.80(498.12)[a]	$F(2, 1499)= 10.48$, $p < .001$, $\eta^2 = .014$
Morality (direction)	Indicates low or high attribute	-72.73(370.07)[a,b]	-108.06(371.48)[a]	-55.88(279.48)[b]	$F(2, 1499)= 3.07$, $p = .047$, $\eta^2 = .004$
Ability	Competent, uncompetitive, unintelligent, able	377.24(675.34)[b]	303.42(709.30)[a,b]	269.02(521.33)[a]	$F(2, 1499)= 3.71$, $p = .025$, $\eta^2 = .005$
Ability (direction)	Indicates low or high attribute	1.44(37.91)	2.44(12.22)	2.12(11.33)	$F(2, 1499)= 0.23$, $p = .794$, $\eta^2 < .001$

Note. M(SD) represent the mean and their respective standard deviations, respectively. Superscripts (i.e., a or b) indicate significant differences between conditions based on Tukey post-hoc tests (i.e., *p* < .05). The categories detected correspond to the LIWC 2022 English dictionary, with the exception of the Stereotype-Content Model (Nicolas et al., 2021). This model is presented in terms on a dimension (i.e., the use of terms of a dimension) and the direction of the terms detected (i.e., each identified term is given a negative or positive value depending on whether it reflects a low high level of each dimension).

In the Hungarian messages (Table 5), the linguistic analysis reveals a subtle yet discernible interplay of language use when compared to the Spanish sample. In the Hungarian messages, the analytical thinking, while present, did not significantly differ across the frames, suggesting a more uniform approach to logical and formal thinking when crafting their stories. This contrasts with the Spanish narratives, where analytical thinking was notably higher in the Hero frame, perhaps indicating a cultural inclination towards a more structured narrative when discussing heroism.

Emotional tone in the Hungarian sample did see variance, with the Profiteer frame eliciting a somewhat more negative tone compared to the Victim frame. In terms of linguistic complexity, the Hungarian sample did not exhibit significant differences in the use of larger words or the length of sentences across the frames. This contrasts with the Spanish narratives, where participants in the Profiteer frame used longer sentences with more complex structures.

One notable distinction in the Hungarian data was the use of 3rd person singular pronouns, which was significantly higher in the Profiteer frame. This could suggest a narrative focus on the individual – potentially the protagonist – as separate from the group, which was not observed in the Spanish sample. It may reflect a cultural tendency to discuss the individual's actions and character more than the collective experience in certain contexts.

Regarding the psychological processes and stereotype content model, the Hungarian narratives did not show significant differences across the frames in terms of drives, affiliation, achievement, or power, indicating a more homogenous application of these linguistic dimensions. This contrasts to the Spanish narratives, where the language of affiliation and achievement was used differently across the frames, with the Victim frame emphasizing communal bonds and the Hero frame accentuating individual successes.

The morality dimension in the Hungarian sample showed that participants discussing the Profiteer frame used more negative language, implying a more critical moral judgment than in narratives about heroes. This is subtly echoed in the Spanish sample, where morality was discussed more frequently in the Victim and Profiteer frames, potentially as a reflection of moral scrutiny.

Overall, the Hungarian messages showed a linguistic pattern that is less varied across the frames than the Spanish narratives. While the Spanish participants' language varied significantly with the frame, reflecting a range of emotional and cognitive engagement, the Hungarian participants displayed a more consistent narrative style, with fewer linguistic fluctuations between frames.

Table 5. *Language Dimensions detected in Participants' Narratives (Hungary, N = 960).*

Category	Description/Examples	Frame Manipulation $M(SD)$			Comparison
		Profiteer	Victim	Hero	
Summary Variables					
Analytical thinking	Metric of logical, formal thinking	42.48(36.35)	36.33(35.77)	40.84(37.51)	$F(2, 941)=2.29, p= .102, \eta^2 = .005$
Clout	Language of leadership, status	41.80(35.61)	40.15(34.49)	41.38(36.10)	$F(2, 941)=0.18, p= .837, \eta^2 < .001$
Authentic	Perceived honesty	36.97(38.31)	42.51(39.08)	40.96(39.34)	$F(2, 941)=1.58, p= .206, \eta^2 = .003$
Emotional tone	Degree of positive (negative) tone	41.05(36.69)[b]	33.63(33.59)[a]	38.55(35.61)[ab]	$F(2, 941)=3.42, p= .033, \eta^2 = .007$
Words per sentence	Average words per sentence	12.34(8.13)	12.95(11.10)	12.71(9.19)	$F(2, 941)=0.31, p= .737, \eta^2 = .001$
Big words	Percent of words 7 letters or longer	20.37(18.34)	21.83(19.38)	22.27(21.29)	$F(2, 941)=0.77, p= .463, \eta^2 = .002$
Dictionary words	Percent words captured by LIWC	85.01(17.30)	86.00(14.70)	84.94(18.18)	$F(2, 941)=0.39, p= .677, \eta^2 = .001$
Linguistic Dimensions					
Personal pronouns	I, you, my, me	8.65(8.87)	8.63(7.98)	8.64(8.51)	$F(2, 941)=0.00, p = .999, \eta^2 < .001$
1st person singular	I, me, my, myself	3.38(7.15)	3.98(7.13)	4.06(7.65)	$F(2, 941)=0.78, p= .460, \eta^2 = .002$
1st person plural	We, our, us, lets	0.81(2.51)	1.09(3.14)	0.89(2.80)	$F(2, 941)=0.75, p= .473, \eta^2 = .002$
2nd person	You, your, yourself	0.80(2.89)	0.81(3.61)	1.02(3.36)	$F(2, 941)=0.49, p= .611, \eta^2 = .001$
3rd person singular	He, she, her, his	1.87(4.21)[b]	0.98(2.66)[a]	0.99(2.93)[a]	$F(2, 941)=7.11, p< .001, \eta^2 = .015$
3rd person plural	They, their, them, themselves	1.25(3.20)	1.22(2.74)	1.13(2.65)	$F(2, 941)=0.14, p= .868, \eta^2 < .001$
Psychological Processes					
Drives	We, our, work, us	6.85(8.45)	6.65(9.91)	5.78(7.07)	$F(2, 941)=1.45, p= .235, \eta^2 = .003$
Affiliation	We, our, us, help	2.06(4.63)	2.54(5.23)	2.33(5.08)	$F(2, 941)=0.67, p= .510, \eta^2 = .001$
Achieve	Work, better, best, working	3.24(6.03)	2.44(6.17)	2.26(4.73)	$F(2, 941)=2.58, p= .077, \eta^2 = .005$
Power	Own, order, allow, power	1.68(4.28)	1.73(6.91)	1.25(3.01)	$F(2, 941)=0.96, p= .383, \eta^2 = .002$
Stereotype Content Model					
Sociability	Sociable, unfriendly, cold, liked	194.76(464.40)	193.43(386.43)	240.05(483.39)	$F(2, 941)=1.16, p= .313, \eta^2 = .002$
Sociability (direction)	Indicates low or high attribute	-10.67(83.27)	-6.74(48.55)	-10.57(72.53)	$F(2, 941)=0.32, p= .724, \eta^2 = .001$
Morality	Moral, untrustworthy, insincere, fair	396.37(760.79)	372.28(932.94)	312.76(583.48)	$F(2, 941)=1.03, p= .359, \eta^2 = .002$
Morality (direction)	Indicates low or high attribute	-121.37(549.40)[a]	-61.35(222.24)[ab]	-47.55(186.53)[b]	$F(2, 941)=3.89, p= .021, \eta^2 = .008$
Ability	Competent, uncompetitive, unintelligent, able	325.91(626.60)	351.91(978.67)	331.02(663.57)	$F(2, 941)=0.10, p= .907, \eta^2 < .001$
Ability (direction)	Indicates low or high attribute	-1.25(49.82)	-4.37(64.89)	1.63(21.71)	$F(2, 941)=1.29, p= .276, \eta^2 = .003$

Note. M(SD) represent the mean and their respective standard deviations, respectively. Superscripts (i.e., a or b) indicate significant differences between conditions based on Tukey post-hoc tests (i.e., $p < .05$). The categories detected correspond to the LIWC 2022 English dictionary, with the exception of the Stereotype-Content Model (Nicolas et al., 2021). This model is presented in terms on a dimension (i.e., the use of terms of a dimension) and the direction of the terms detected (i.e., each identified term is given a negative or positive value depending on whether it reflects a low high level of each dimension).

4. Discussion

This report provides insights into how different narrative frames within testimonials – Profiteer, Victim, or Hero – influence the psychological processing and subsequent narrative production of individuals in Spain and Hungary. The studies presented here reveal distinct patterns in the content of messages created by participants, reflecting particularities concerning the content, as well as emotional and cognitive responses to each frame.

Concerning to *what* people transmitted in their narratives (i.e., their messages), we can see the Profiteer frame predominantly produced feelings of injustice and moral disapproval towards the protagonist, perceiving him as exploiting the host nation. This was evident in both Spanish and Hungarian samples, with frequent references to welfare benefits, such as 'aid' and 'benefits', highlighting a perception of unfair advantage.

Conversely, the Victim frame elicited responses characterized by negative emotions, primarily sadness and, in some cases, anger. This frame led participants to perceive the situation as unjust, with Hungarian participants additionally expressing simultaneously, opposition to immigration. Despite recognizing the sorrowful circumstances of the protagonist, these participants often shifted the focus to domestic challenges or anti-immigrant sentiments.

The Hero frame, on the other hand, elicited more positive responses. Participants admired the protagonist's journey and achievements, using words associated with overcoming challenges and success. This positive reception, however, was tempered in the Hungarian sample by generalized anti-immigrant sentiments, suggesting a nuanced interpretation of this narrative frame. Comparatively, the analysis revealed a more positive tone in the messages from participants in the Hero frame, particularly within the Spanish sample. Words like 'overcoming', 'admirable', and 'exemplary' were frequently used, indicating a recognition and appreciation of the protagonist's achievements.

Importantly, the analyses of the content of the messages and in particular, the similarities in the responses towards the Profiteer frame across countries, indicate a common psychological response of *strategic vigilance*. In other words, how people are actively prepared to detect and individuals who are not promoting cooperation or those who abuse from common resources (Cosmides and Tooby, 1992; Heintz et al., 2016). This aspect is of great importance, considering the fact that overall, the media tend to present negative frames of immigrants (e.g., Schlueter and Davidov, 2013) and thus, individuals – as both recipients and creators of narratives – can exacerbate these intergroup attitudes inadvertently. In other words, these dynamics help contribute these narratives' success (for migration narrative success, see Garcés-Mascareñas and Pastore, 2022).

On the other hand, a response that can elicit more reactions of empathy or admiration – to Victim and Hero frames, respectively – also shows generalized responses with contextual idiosyncrasies. In particular, how participants of both countries tend to react with empathy and compassion to stories of victimization (Goetz et al., 2010; Stürmer et al., 2005) and with admiration towards stories of prestige (Algoe and Haidt, 2009; Henrich and Gil-White, 2001). Nonetheless, in the case of Hungarians, people also manifested suspicions about immigration (Meuleman et al., 2009), thus reflecting a stronger opposition to migration while simultaneously recognizing the attributes of the protagonists of the stories. Considering that people from both

countries reacted similarly to the narratives at a psychological level (see Pizarro et al., 2023), the differential pattern manifested in the posts created by Hungarian participants may reflect several idiosyncrasies of their socio-cultural context. For instance, a generalized opposition towards immigration – as well as towards European migration-related policies – that is derived from governmental policy orientations (Canveren and Durcaçay, 2017) –, or from the country's historical flow of migration (see Schlueter and Davidov, 2013). Either way, it is possible to see how these narratives are successful currently in the Hungarian context.

4.1 Emotionality and Linguistic Styles

The analysis of emotionality, on the other hand, revealed discernible differences between the frames people read. Spanish messages within the Hero frame were marked by a positive emotional tone, suggesting an inclination towards narratives that celebrate individual achievements and resilience. In contrast, the Hungarian narratives exhibited a more moderated emotional expression, albeit with the Profiteer frame eliciting a somewhat more negative tone than the Victim frame.

In the linguistic domain, the Spanish messages were characterized by significant variability across frames in analytical thinking, emotional tone, and the use of language denoting affiliation and achievement. The narratives shaped by the Hero frame displayed greater analytical thinking, suggesting a structured approach to narrative construction that underscores logic and coherence. This was corroborated through the self-reported analyses of the frames in this sample, which suggested the same overall pattern through quantitative analyses (Pizarro et al., 2023). Furthermore, the language of affiliation in the Spanish Victim frame underscored the communal aspect of narratives, aligning with the frame's emphasis on shared experiences, collective identity and prosociality (Stellar et al., 2017; Stürmer et al., 2005). The elevated use of achievement-related language in the Spanish Hero frame narratives accentuated the frame's focus on individual success and triumph over adversity (Algoe and Haidt, 2009).

Conversely, the Hungarian narratives demonstrated a more uniform linguistic pattern across frames. Notably, the use of 3rd person singular pronouns was significantly more prevalent in the Profiteer frame, directing attention towards the individual's actions and character. This finding diverges from the Spanish sample, where the focus on the individual was not as pronounced. When it comes to morality, the Hungarian narratives in the Profiteer frame indicated a tendency for more critical moral judgment, a nuance that was subtly echoed in the Spanish narratives. Overall, this pattern may suggest a cultural difference in narrative emphasis with Hungarian narratives potentially placing greater importance on individual agency within the Profiteer context. Additionally, the element of moral scrutiny presents an intersection of narrative and cultural values when it comes to the topic of immigration (Meuleman et al., 2009). In other words, this may show how people in Hungary have narratives of scrutiny and suspicion about immigration on a more permanent basis.

The data suggests that Spanish narratives are more emotionally and linguistically varied according to the frame, which might reflect, compared to the Hungarian sample, a cultural openness to emotive and cognitive flexibility in storytelling. In contrast, Hungarian narratives show a more measured approach, with a consistent style across frames that may speak to cultural norms of communication and expression. These distinctions could have profound

implications for the way narratives are crafted and interpreted in different cultural contexts, as well as the effects in other social contexts like law and policymaking (Boswell et al., 2021; Boswell and Smellie, 2023). Furthermore, the observed patterns in emotional tone and linguistic dimensions provide valuable insights into the cultural nuances that shape narrative construction (Markus and Kitayama, 2010; see also Lu et al., 2023). The tendency of Spanish narratives to exhibit a more positive emotional tone in the Hero frame and a greater focus on collective experiences in the Victim frame may be indicative of a broader cultural narrative that values individual heroism and communal resilience. In contrast, the Hungarian narratives' less pronounced emotional tone across frames, and the emphasis on individual scrutiny within the Profiteer frame, may suggest a cultural narrative that is more reserved in emotional expression and critical in moral judgment.

4.2 Future Lines and Conclusion

The exploration of language use in these narratives also contributes to a deeper understanding of how linguistic dimensions such as analytical thinking, clout, and emotional tone are interlaced into the fabric of narrative creation. The use of these linguistic elements reveals the complex ways in which narratives are constructed to convey emotion, assert authority, and articulate moral and social perspectives. In addition, as von Hippel and colleagues indicate, these analyses provide an adequate approximation to the study of narratives: "Because variability in linguistic style appears to be a largely nonconscious aspect of language (…), linguistic markers can serve as implicit measures of attitudes in a manner that is high in external validity" (von Hippel et al., 2009, p. 430).

While these analyses complement other results under the work of WP5, these should be further analyzed and contrasted with different methodologies in natural environments (e.g., social media platforms). Moreover, the implications of these findings extend beyond the academic realm and into the practical world. Understanding how narratives are constructed and perceived in different cultural contexts has significant applications in fields such as international relations, marketing, sociology, and intercultural communication. The insights gained from this study could inform strategies for crafting narratives that resonate across cultures and foster a more profound intercultural understanding.

These findings also open avenues for further research into the cognitive processes underlying narrative construction. The greater analytical thinking observed in the Spanish Hero frame narratives raises questions about the cognitive styles that are activated when engaging with stories of heroism and achievement. Similarly, the consistent linguistic style across the Hungarian frames invites exploration into the cognitive uniformity that may characterize narrative construction in this cultural context.

In conclusion, this report, as well as other elements of WP5, sheds light on the multifaceted nature of narrative construction, the profound impact of cultural context on the emotional and linguistic elements of storytelling, and more generally, to better understand what makes particular migration narratives successful. The findings underscore the importance of considering cultural hints in the analysis of narratives and open up new perspectives on the role of framing in shaping the emotional and cognitive dimensions of narrative creation. As we continue to explore the rich landscape of cross-cultural narrative construction, these insights

will undoubtedly contribute to a better appreciation of the universal and particular aspects of testimonial narratives in particular, and narrative and storytelling in general.

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