Analyzing Cultural, Linguistic, and Social Differences in Types of Support in English and Spanish Social Media Comments

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Abstract

Social support plays a crucial role in online interactions, yet its expression varies across languages and cultures. This study explores linguistic and psychological markers of social support in English and Spanish social media conversations. Using natural language processing (NLP) techniques, including LIWC analysis and GPT-4o classification, we examine emotional, informational, instrumental, and appraisal support types. Our findings reveal significant cultural differences, with English speakers favoring informational support and Spanish speakers emphasizing appraisal support. These insights contribute to cross-cultural NLP research and highlight the need for culturally adaptive social support detection models.

1 Introduction

Social support is usually conceptualized as an emotional, intangible, and tangible aid procured from one's social connections, whereby the person feels loved, cared for, respected, and valued (Kolesnikova et al., 2025; Xia et al., 2012). It is often differentiated into four types of resources:

Social support can be categorized into four main types. *Emotional support* involves expressing care, empathy, love, and trust to provide comfort. *Appraisal support* focuses on offering feedback or validation that aids in self-evaluation rather than solving specific problems. *Informational support* refers to sharing advice or guidance to help someone navigate challenges, especially during stressful situations. Lastly, *instrumental support* entails providing tangible assistance, such as goods, services, or financial aid, to address practical needs (Thomas and Hodges, 2024; Langford et al., 1997).

Social support is a multidimensional construct that encompasses both psychological and material resources available to individuals through their interpersonal relationships (Ahani et al., 2024; Rodriguez and Cohen, 1998). The expression of social support on digital platforms is influenced by various cultural, linguistic, and platform-specific factors. Given the growing importance of social media in facilitating interpersonal support, understanding these factors is essential for enhancing online support dynamics. This research investigates the cultural and linguistic variations in social support expression, specifically focusing on English and Spanish speakers. By leveraging advanced linguistic analysis and natural language processing techniques, In this study, we employed GPT-4o to classify our English and Spanish dataset, which consisted of two binary classification tasks and one multi-class task. Task 1 involved distinguishing between Support and Non-Support, while Task 2 categorized instances as related to either an Individual or a Group. Task 3, a multi-class classification, included the categories Nation, Other, LGBTQ, Black Community, Women, and Religion, alongside the four types of social support discussed earlier (Ahani et al., 2024; Tash et al., 2025). Following classification, we performed an in-depth analysis of the results. Additionally, we utilized LIWC (Tash et al., 2024) to extract various linguistic and psychological categories, including Social Processes, Word Count (WC) and Function Words, Affect, Drives, and Culture. The detailed analysis and findings are presented in the following sections.

The following contributions summarize the key findings of this research: *Cultural Differences in Social Support:* Analyzing how English and Spanish speakers express social support, influenced by cultural norms. *Linguistic and Psychological Markers:* Identifying linguistic and psychological features of social support using LIWC across languages. *Cross-Cultural NLP for Social Support:* Adapting GPT-4o for classifying social support in both languages, highlighting language-specific features. *Social Media Platform Impact:* Studying how platform factors affect how users give and receive support in different languages.

2 Literature Review

Recent studies have focused on the use of NLP techniques for social support detection. Ahani et al. (2024) accomplished the classification of individual vs group support using the fusion of psycholinguistic, emotional, and linguistic features with n-grams, achieving an accuracy of 0.72 to 0.82. Using Transformer models from Hugging Face, Kolesnikova et al. (2025) utilized LLMs (GPT-3, GPT-4, GPT-4-turbo) with Zero-Shot learning. Their research showed that RoBERTa-base was the most effective model, surpassing the other results by up to 8%.

Kwon et al. (2025) investigate the patterns of social support among cancer patients and how these patterns affect their self-reported outcomes using latent class analysis (LCA). The analysis divides social support into emotional, instrumental, informational, and appraisal categories, from which three tiers of latent classes—low, moderate, and high emotional support—are formed. The results demonstrate that social support is not equally proportioned, and possessing strong support in one area does not guarantee that other areas will be well-supported. The study underscores lacking social support and intervention customization for older patients with cancer. Moreover, it proposes social prescribing, which involves referring patients to local community services, as a possible way to fill the support gaps. Choi et al. (2024) investigate the social support phenomenon among nursing students with clinical training using a concept analysis approach. The analysis of 27 selected documents from the years 2000 to 2022 revealed four dimension descriptors of social support: structural (integration into social networks), educational (academic and modeling), psychosocial (emotional and positive appraisal self-esteem), and instrumental (informational and material). Antecedents of social support are classified as stress, personal need, social network, and social climate, while its consequences are improved mental health and enhanced quality of life. Findings indicated that social support in nursing students is composite and multifaceted in both functional and structural aspects which needs further measurement focus for later studies and more specialized tools for programs and research.

3 Methodology

Datasets: In this study, datasets outlined in two previous papers (Ahani et al., 2024; Tash et al., 2025) were utilized, focusing on YouTube comments. The support comments were categorized into two tasks: a binary task, which includes group and individual classifications, and a multi-class task, which categorizes group comments based on various social issues such as nationality, the Black community, women, religion, LGBTQ+, and others. Classification was based on social issues, and the categories were the same in both the English and Spanish datasets (Kolesnikova et al., 2025). The comments were also classified according to the type of social support they expressed, including emotional, informational, appraisal, and instrumental support (Langford et al., 1997). For statistical data, please refer to Table 1.

GPT: GPT-4o is an advanced Transformer-based model trained on extensive text data. It performs exceptionally well in NLP tasks such as text classification, sentiment analysis, and text generation (Tash et al., 2025).

For classifying the types of social support in both the English and Spanish datasets, a GPT4-o model was employed to predict the support type for each comment (Imamguluyev, 2023). The model was specifically tasked with identifying one of the four types of social support: Emotional Support, Informational Support, Instrumental Support, and Appraisal Support.

In the English dataset, the model utilized a set of few-shot examples to guide the classification task. Each comment was evaluated based on a predefined prompt, and the model was instructed to classify the support type exclusively from the content of the comment.

Similarly, for the Spanish dataset, a comparable approach was followed. The few-shot examples were adapted for the Spanish language, maintaining the same structure and categories. Each comment in this dataset was processed through the model using the same classification logic.

Both datasets were processed by applying the model's prediction function to each comment. The predicted support type was then stored as a new column in the dataset. The results were saved to CSV files for further analysis.

This approach allowed for a comprehensive understanding of how social support is articulated across different languages, ensuring that each comment was appropriately classified based on the provided support type.

The LIWC model has significantly advanced psychological research by enhancing the analysis of

Task	*Category*	*English Count*	*Spanish Count*
Task 1	Supportive	2,232	678
Task 2	Group	1,811	507
	Individual	421	171
Task 3	Nation	981	35
	Other	519	101
	LGBTQ	154	245
	Black Community	114	16
	Women	24	41
	Religion	19	69
Support Type	Emotional	1,867	354
	Informational	246	67
	Appraisal	100	257
	Instrumental	19	-

Table 1: Statistics for English and Spanish Datasets

language data, making it more robust, accessible, and scientifically rigorous. LIWC-22 evaluates over 100 textual dimensions, all validated by respected research institutions worldwide, and has been cited in over 20,000 scientific publications, establishing it as a trusted tool in the field. Additionally, this software supports nearly 15 languages, including English and Spanish (LIWC, 2024). Despite its advantages, LIWC has some limitations, such as its reliance on predefined linguistic categories that may not capture the full complexity of natural language. It also struggles with accurately interpreting sarcasm, irony, and subtle language, leading to potential misinterpretations (Lyu et al., 2023; Bojić, 2023).

In our analysis, we calculated the average values for five key LIWC categories across four distinct types of social support in both English and Spanish comments to explore social, linguistic, and cultural differences between these languages. By tracking fluctuations in these average scores, we investigated how linguistic patterns vary across different forms of social support. Specifically, we examined differences in Social Processes (Pennebaker et al., 2015), which involve various linguistic expressions that reflect human interactions, such as personal pronouns and verbs indicating involvement, which help in understanding social dynamics. Word Count (WC) is used to assess user engagement and fluency in a conversation, and Function Words (Baddeley and Singer, 2008) in LIWC include a range of linguistic elements, such as total pronouns, impersonal pronouns, articles, prepositions, auxiliary verbs, common adverbs, conjunctions, and negations. The Affect (Pennebaker et al., 2015) subset of LIWC encompasses various emotional dimensions, including Positive Emotion, Negative Emotion, Anxiety, Anger, Sadness, and Swear Words. Drives (Pennebaker, 2001) is a broad dimension that encompasses different needs and motivations. In our LIWC analysis, we focused on the Drives, specifically exploring the elements of Affiliation, Achievement, and Power. Finally, the Culture (Boyd et al., 2022) category includes three cultural domains: Politics, Ethnicity, and Technology, each containing terms associated with political discourse, ethnic identities, and scientific progress, respectively. These categories were analyzed to uncover notable distinctions in language use. These linguistic markers provide valuable insights into the psychological and communicative aspects of each type of social support. A comprehensive breakdown of these averages and their implications is presented in the following section.

4 Analysis and Results

4.1 Support Types in the English Dataset

The analysis of support types in the English dataset reveals distinct patterns in how different groups receive various forms of social support. *Emotional support* is the most dominant form across nearly all categories, with the *LGBTQ* (90.26%) and *Nation* (88.89%) groups showing the highest values, indicating a strong reliance on emotional connection and solidarity. In contrast, *Appraisal* support is generally low across all groups, with *Women* (16.67%) having the highest value, suggesting that evaluative feedback is less emphasized compared to emotional support. *Informational support* varies significantly across groups, with the *Black Community* (43.86%) standing out as the group that most seeks informational support, reflecting a strong need for knowledge sharing and resource exchange. Other groups like *Women* (12.50%) and *Support* (11.02%) show moderate levels of informational support.

Instrumental support, which involves tangible assistance, is the least prevalent, with *LGBTQ* (0%) and *Religion* (0%) receiving no instrumental support, suggesting a focus on emotional or informational exchanges rather than practical help. Groups like *Individual* (77.43% emotional) and *Group* (85.09% emotional) show strong emotional support, but *Individual* support also includes a relatively higher proportion of *Appraisal* (14.73%), indicating a more personal, evaluative form of support. In general, *LGBTQ* and *Nation* groups emphasize emotional support, while the *Black Community* focuses more on informational support. *Women* receive a mix of emotional, appraisal, and informational support, while *Instrumental support* remains

Labels	Emotional	Appraisal	Informational	Instrumental
Support	83.64	4.48	11.02	0.851
Individual	77.43	14.73	7.36	0.48
Group	85.09	2.10	11.87	0.94
Black Community	51.75	3.51	43.86	0.88
LGBTQ	90.26	1.30	8.44	0.00
Nation	88.89	1.02	9.58	0.51
Other	84.97	3.47	9.44	2.12
Religion	68.42	0.00	31.58	0.00
Women	70.83	16.67	12.50	0.00

Table 2: Distribution of Support Types in the English Dataset

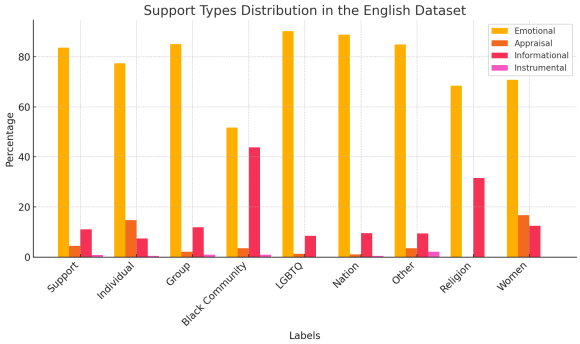

Figure 1: Support Types Distribution in the English Dataset

minimal across all categories. These trends highlight the cultural and contextual differences in the types of social support valued by different communities, with emotional support being the most common, but informational support playing a significant role in some groups, such as the *Black Community*.

4.2 Support Types in the Spanish

The analysis of support types in the *Spanish dataset* reveals distinct patterns in the way social support is distributed across various groups. *Emotional support* is the most prevalent in many groups, particularly within the *LGBTQ* (86.93%) and *Group* (60.35%) categories, indicating a strong reliance on emotional connection. *Appraisal support*, which involves evaluative feedback or judgment, is notably high in *Women* (85.36%) and *Individual* (69.00%) categories, reflecting a greater emphasis on receiving feedback or guidance, especially in personal contexts. *Informational support* appears less frequently across the groups, with the *Religion* category showing the highest percentage (40.57%), highlighting the importance of sharing knowledge or guidance in religious contexts.

In terms of group comparisons, *Support* shows a balanced distribution of emotional (52.21%) and appraisal (37.90%) support, with informational support being the least common (9.88%). The *Black Community* receives a significant amount of emotional (56.25%) and informational (31.25%) support, while *LGBTQ* communities heavily rely on emotional support (86.93%) and less on appraisal (5.31%) or informational (7.76%) support. *Nation* groups receive a notable amount of emotional support (65.71%) and a moderate level of appraisal support (31.42%), but informational support remains minimal (2.86%).

Interestingly, *Women* exhibit an overwhelming reliance on *Appraisal* support (85.36%), with minimal emotional (14.63%) or informational support, suggesting that this group places a strong emphasis on evaluative feedback or guidance. The *Other* category shows a more balanced distribution, with a significant proportion of appraisal support (66.33%) and emotional support (24.75%).

In summary, the analysis of the Spanish dataset reveals that emotional support is dominant in groups like *LGBTQ* and *Group*, while *Appraisal* support plays a crucial role for *Women* and *Individual* categories. *Informational support* appears less frequently across the groups, although it remains important in contexts like *Religion* and *Black Community*. These findings demonstrate cultural variations in the types of support that are prioritized by different communities in Spanish-speaking contexts.

Labels	Emotional	Appraisal	Informational
Support	52.21	37.90	9.882
Individual	28.07	69.00	2.923
Group	60.35	27.41	12.22
Black Community	56.25	12.50	31.25
LGBTQ	86.93	5.306	7.755
Nation	65.71	31.42	2.857
Other	24.75	66.33	8.910
Religion	43.47	15.94	40.57
Women	14.63	85.36	0.00

Table 3: Distribution of Support Types in the Spanish Dataset

4.3 Comparison of Social Support Types in English and Spanish

The primary difference between English- and Spanish-speaking communities in social support types lies in the *higher prevalence of appraisal support in Spanish contexts* and the *greater emphasis on informational support in English contexts*. In the Spanish dataset, appraisal support

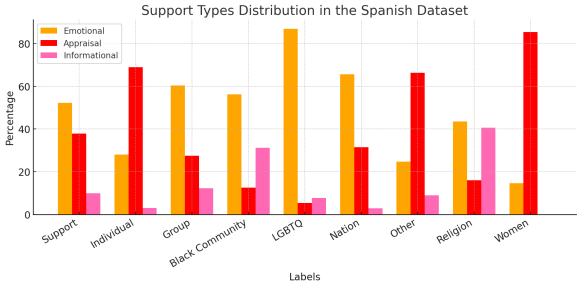

Figure 2: Support Types Distribution in the Spanish Dataset

is notably dominant, especially among *Women (85.36%)* and *Individuals (69.00%)*, whereas in the English dataset, even the highest appraisal category (Women) reaches only *16.67%*. This suggests that *Spanish-speaking cultures place a stronger emphasis on guidance, advice, and collective decision-making*, which aligns with *familismo*—a cultural trait emphasizing strong family and community ties (Campos et al., 2014). In contrast, *English-speaking communities, particularly the Black Community (43.86%)*, show a greater tendency to seek informational support, highlighting an *individualistic approach* where acquiring knowledge and resources is crucial for empowerment and self-sufficiency.

Another notable contrast is how *emotional support is more evenly distributed in English-speaking communities*, while *Spanish speakers exhibit a more varied reliance on different support types*. In the English dataset, emotional support remains consistently high across nearly all groups (often above *80%*), reinforcing the idea that *empathy and validation are central to supportive communication* in these communities. However, in Spanish-speaking contexts, emotional support is less dominant in certain groups, with Women, for example, receiving only *14.63%* emotional support while heavily relying on appraisal. This suggests that *Spanish-speaking users may integrate emotional reassurance into evaluative feedback, rather than separating them*, making appraisal support a more culturally embedded form of social connection. These differences illustrate how *linguistic and cultural norms shape the way people express and seek social support online*.

4.4 Social Processes

The analysis of social support categories between English and Spanish reveals several key differences in how support is expressed across these languages. Overall, English shows higher values in almost all categories compared to Spanish, suggesting a more pronounced presence of social support in English-language interactions. Emotional support in English is notably more prevalent, with categories like Social and SocBehav showing significant involvement, indicating that social interactions in English may offer stronger emotional backing. In contrast, Spanish displays much lower values across emotional support categories, which may imply different cultural norms or expressions of emotional support.

When it comes to appraisal support, English again stands out, with Social, SocBehav, and Moral showing high values, suggesting that evaluative feedback is more pronounced in English social interactions. Spanish, while still having an appraisal dimension, exhibits lower values, with Social support playing a more significant role in the appraisal category than others. In terms of informational support, both languages exhibit a distribution of support across various categories, but English has higher values overall, especially within Social and SocRefs, indicating a stronger reliance on social relationships and references for informational support. Spanish, on the other hand, presents lower overall values, suggesting that informational support may be less prevalent in Spanish-speaking contexts.

Instrumental support, which involves tangible assistance, also shows a marked difference, with English exhibiting higher values in Social and SocBehav categories, reflecting a stronger focus on practical support. Spanish-speaking interactions, however, show relatively lower scores in this area, pointing to less emphasis on tangible aid. Lastly, both languages show low values for Conflict and Family support, although English has a slightly higher focus on conflict, potentially indicating a greater acknowledgement of negative support in social exchanges.

These findings highlight the significant role of cultural and linguistic factors in shaping social support behaviors. English-speaking cultures seem to place more emphasis on expressive emotional support and clear informational guidance, whereas Spanish-speaking cultures might express support in more implicit or nuanced ways. This comparison provides valuable insight into how social support varies not just linguistically, but culturally, offering a deeper understanding of cross-cultural differences in support structures.

	English				Spanish		
	Emotional	Appraisal	Informational	Instrumental	Emotional	Appraisal	Informational
Social	23.5882	21.3436	19.6227	29.3147	3.2807	2.4329	2.4811
SocBehav	14.6397	11.4496	11.7086	17.8484	1.6436	1.4526	1.4895
Prosocial	4.2680	2.7361	3.1549	10.0378	0.3394	0.0563	0.3362
Polite	1.0595	1.0693	0.6763	0.5263	0.9287	0.8374	0.5246
Conflict	0.7365	0.6274	2.2532	3.5331	0.0312	0.0926	0.0401
Moral	1.8230	1.8912	1.6382	1.2789	0.4471	0.3561	0.4714
Comm	3.2831	2.7312	3.4325	1.4210	0.0123	0.0040	0.1640
Family	1.4665	0.3831	0.5916	0.5731	0.3323	0.4932	0.3501
SocRefs	8.3070	10.4813	7.4850	11.4673	1.6619	1.0221	0.9900
Friend	0.1554	0.0208	0.0970	0.4857	0.0444	0.0036	0.0182
Female	0.8411	2.0567	0.3754	0.4384	0.8499	0.0685	0.0552
Male	1.6577	1.6224	1.2696	2.8136	0.4031	0.5485	0.3847

Table 4: Comparison of Social Support Categories in English and Spanish

	English				Spanish		
	Emotional	Appraisal	Informational	Instrumental	Emotional	Appraisal	Informational
WC	18.43	20.86	29.67	13.15	24.31	26.71	65.38
I	0.3491	0.0	0.0156	0.0	1.5787	0.6938	0.8935
We	0.3200	0.5271	0.4104	0.2505	0.0	0.0051	0.0
You	0.8368	0.3679	0.1663	0.7289	0.1316	0.2208	0.2628
They	0.0151	0.0	0.0	0.0	0.0	0.0	0.0
She/He	0.0200	0.0	0.0	0.0	0.0311	0.0415	0.0152

Table 5: Comparison of Pronoun Usage in English and Spanish

4.5 WC and Function Words

The analysis of pronoun usage across English and Spanish provides insight into the linguistic structures used in different types of social support. The table shows a comparative overview of several pronouns (e.g., "I", "We", "You", "They", "She/He") and their usage in different support categories: Emotional, Appraisal, Informational, and Instrumental.

For English, the most notable finding is the high use of "I" in the Emotional support category (0.3491), which indicates a strong focus on self-expression and personal involvement in emotional contexts. "We" appears prominently in the Appraisal and Informational categories, with values of 0.5271 and 0.4104, respectively, suggesting that collective or group-based support is more common in evaluative and informational contexts. The pronoun "You" is frequently used across all categories, especially in Informational support (0.7289), which could reflect a focus on providing direct advice or support to the recipient. The low usage of "They" and "She/He" highlights the more direct, personal nature of the support expressed in English.

In Spanish, the usage of "I" is notably higher in the Emotional category (1.5787), showing a greater emphasis on self-involvement in emotional exchanges compared to English. "We" is scarcely used in the Spanish data, indicating that collective support may not be as prominent in the Spanish-speaking social support context. The pronoun "You" is used consistently across all categories, but with a stronger focus in the Emotional (0.1316) and Appraisal (0.2208) categories. The usage of "They" and "She/He" remains minimal in Spanish, similar to English, suggesting that both languages favor direct, personal support, particularly in the emotional and appraisal contexts.

Overall, the comparison reveals distinct patterns in pronoun usage, which could reflect cultural differences in how social support is expressed. English seems to favor group-based or more balanced support, especially in informational and appraisal contexts, while Spanish leans towards individualistic expressions, particularly in emotional support.

4.6 Affect (Emotional Expressions)

The data reveals significant differences in the expression of affect between English and Spanish. In English, the overall Affect category is highest in Emotional Support (22.1198) and lowest in Informational Support (13.6497), indicating that emotional expressions are more prevalent in contexts involving emotional and appraisal support. Spanish, on the other hand, shows much lower levels of affect across all categories, with the highest value in Emotional Support (2.1384) and the lowest in Informational Support (1.5241). This suggests that emotional expressions are less pronounced in Spanish compared to English, possibly reflecting cultural differences in emotional communication.

Positive tone ("Tone_pos") is more prominent in English, particularly in Emotional (14.8101) and Appraisal Support (15.2921), while in Spanish, it is significantly lower, peaking at Emotional Support (1.7231). Negative tone ("Tone_neg") is also higher in English, especially in Instrumental Support (7.1621), compared to Spanish, where it remains minimal across all categories (e.g., 0.3668 in Emotional Support). This indicates that English speakers are more likely to express both positive and negative emotions explicitly, whereas Spanish speakers tend to moderate their emotional tone.

Specific emotional categories further highlight these differences. For instance, "Emo_pos" (positive emotions) in English is highest in Emotional Support (4.7601) and lowest in Informational Support (0.7366), while in Spanish, it is consistently low, with the highest value in Emotional Support (0.3319). Similarly, "Emo_neg" (negative emotions) is more prevalent in English, particularly in Emotional Support (3.9776), compared to Spanish, where it remains minimal (e.g., 0.1423 in Emotional Support). Notably, emotions like anxiety ("Emo_anx") and anger ("Emo_anger") are almost

	English				Spanish		
	Emotional	Appraisal	Informational	Instrumental	Emotional	Appraisal	Informational
Affect	22.1198	19.2312	13.6497	19.2278	2.1384	1.9299	1.5241
Tone_pos	14.8101	15.2921	6.7391	12.0657	1.7231	1.2747	0.9862
Tone_neg	6.9241	3.7170	6.5087	7.1621	0.3668	0.5571	0.5276
Emotion	8.9701	5.7208	2.6817	3.2010	0.4871	0.4552	0.3537
Emo_pos	4.7601	4.1621	0.7366	2.1042	0.3319	0.2439	0.1726
Emo_neg	3.9776	1.2526	1.6891	1.0963	0.1423	0.1247	0.1810
Emo_anx	0.2987	0.1381	0.3662	0.0	0.0	0.0	0.0
Emo_anger	0.2803	0.4436	0.5301	0.0	0.0113	0.0056	0.0401
Emo_sad	2.1310	0.4628	0.2558	0.4384	0.0092	0.0	0.0
Swear	0.1921	0.0823	0.1510	0.5847	0.0355	0.0115	0.0098

Table 6: Comparison of Affective Categories in English and Spanish

	English				Spanish		
	Emotional	Appraisal	Informational	Instrumental	Emotional	Appraisal	Informational
Drives	8.0480	12.8244	10.8008	17.3473	0.2879	0.9576	0.2620
Affiliation	3.7605	2.5088	2.3139	6.9636	0.0895	0.0252	0.0376
Achieve	1.1439	4.7534	1.9992	3.5078	0.1717	0.8174	0.0497
Power	3.2499	5.7729	6.5200	6.8757	0.0773	0.2634	0.1747

Table 7: Comparison of Drives Categories in English and Spanish

absent in Spanish, while they appear in English, albeit in small amounts. Sadness ("Emo_sad") is also more common in English, especially in Emotional Support (2.1310), but nearly absent in Spanish.

Finally, the use of swear words ("Swear") is higher in English, particularly in Instrumental Support (0.5847), compared to Spanish, where it is minimal across all categories (e.g., 0.0355 in Emotional Support). This suggests that English speakers may use stronger or more explicit language in certain contexts, while Spanish speakers exhibit greater restraint.

In summary, the data indicates that English speakers express affect more frequently and intensely across all types of support, while Spanish speakers tend to moderate their emotional expressions. This could reflect cultural norms that influence how emotions are communicated in each language, with English favoring more explicit emotional expression and Spanish adopting a more reserved approach.

4.7 Drives

The analysis of the Drives categories in English and Spanish highlights the different motivational underpinnings in social support expressions across both languages. The table compares four key drives: Drives, Affiliation, Achieve, and Power, which reflect varying psychological needs influencing communication.

For English, the Drives category has the highest value in the Instrumental support category (17.3473), suggesting that practical or tangible support is strongly driven by motivational factors such as achieving goals or asserting power. This is further emphasized by the substantial values in the Power (6.8757) and Achieve (3.5078) categories, particularly within the Instrumental and Appraisal contexts. The Affiliation drive, indicating the need for social connection, is more prominent in the Emotional support category (3.7605), showing that emotional support in English is often motivated by the desire for connection and belonging.

In Spanish, the overall drive values are considerably lower than in English, with Drives being minimal in all categories, especially in Emotional (0.2879) and Appraisal (0.9576). This indicates that Spanish speakers may rely less on motivational drives like achieving goals or asserting power in their social support interactions. The Affiliation drive in Spanish is also quite low across all categories, particularly in Emotional support (0.0895), which contrasts sharply with its stronger presence in English. The Achieve and Power drives are similarly low, suggesting that instrumental support in Spanish interactions is less influenced by achievement or power dynamics compared to English.

In summary, the analysis of the Drives categories indicates that English social support is more driven by motivations related to achieving goals, asserting power, and seeking social affiliation, particularly in emotional and instrumental support. In contrast, Spanish social support interactions show a less pronounced influence of these motivational factors, suggesting a different set of dynamics in how support is structured and expressed. This difference could reflect underlying cultural values, where English speakers may place more emphasis on individual achievement and power, while Spanish speakers may express support in a more collectivist or relational manner.

4.8 Culture

The analysis of cultural categories in social support conversations reveals notable differences between English and Spanish speakers. Overall, English-language support messages contain significantly more cultural references, especially in informational and instrumental support, suggesting that English speakers frequently integrate discussions about societal norms, traditions, and structures when providing guidance or solutions. In contrast, Spanish speakers mention cultural aspects far less, with the highest presence in appraisal support, indicating a more emotionally driven approach. Political and ethnicity-related discussions are also

	English				Spanish		
	Emotional	Appraisal	Informational	Instrumental	Emotional	Appraisal	Informational
Culture	3.3919	1.6045	6.5468	5.1789	0.6405	1.9844	0.2832
Politic	0.5071	0.7961	1.5984	0.8689	0.0294	0.2532	0.0
Ethnicity	2.8219	0.6362	4.3510	2.4700	0.5987	1.7197	0.2079
Tech	0.0635	0.1723	0.6365	1.8400	0.0123	0.0114	0.0753

Table 8: Comparison of Cultural Categories in English and Spanish

more common in English, particularly in informational support, where references to social justice, government policies, or racial identity may play a role in guiding others. Spanish messages, however, rarely engage in such discussions, reinforcing the idea that support in Spanish-speaking communities tends to be more interpersonal and emotionally centered rather than structural or societal. Additionally, technology-related references appear predominantly in English, particularly in instrumental support, reflecting a problem-solving and resource-driven approach to offering help. These differences align with cultural theories of individualism vs. collectivism, where English-speaking cultures, often more individualistic, incorporate broader societal and structural perspectives in their support interactions. In contrast, the collectivist nature of Spanish-speaking communities may lead to a greater focus on direct emotional connection and shared experiences, rather than discussions of cultural or societal structures.

5 Discussion

Our study provides a comparative analysis of social support in English and Spanish social media conversations, highlighting significant cultural and linguistic differences. The findings suggest that English-speaking users tend to engage more in informational and emotional support, while Spanish-speaking users show a greater inclination toward appraisal support and express cultural and social themes differently. These variations align with previous research suggesting that collectivist cultures, such as those in Spanish-speaking countries, emphasize communal problem-solving and emotional closeness, whereas individualistic cultures, often associated with English-speaking regions, prioritize autonomy and self-efficacy (Triandis, 2018).

Additionally, our LIWC-based analysis provided insights into the psychological and linguistic features that shape social support in both languages. The variance in pronoun usage, sentiment scores, and specific categories of emotional expression underscores the role of cultural values in online interactions.

One of the key implications of our study is the need for culturally adaptive NLP models for social support classification. Existing models, primarily trained on English-language data, may not fully capture the nuances of support-seeking and support-providing behaviors in other languages. The findings also suggest that platforms aiming to foster supportive communities should consider cultural differences when designing interventions or recommendation systems.

6 Conclusions and future work

This study explored the cultural differences in the provision and reception of social support in English and Spanish social media conversations. By applying NLP techniques, including LIWC analysis and machine learning classification, we were able to identify meaningful linguistic and psychological differences in social support expressions across cultures. The results contribute to the growing body of literature on computational social science and highlight the importance of integrating cultural context into social media analytics.

For future work, we propose expanding the dataset to include other languages and cultural contexts to validate our findings across a broader spectrum. Lastly, collaboration with social psychologists could enhance the interpretation of cultural dynamics in social media interactions.

7 Limitation

Despite its contributions, this study has several limitations. First, the dataset is limited to English and Spanish, which may not fully capture the diversity of social support expressions across all cultures. Second, while LIWC provides valuable linguistic and psychological insights, it may not account for nuanced cultural expressions that do not have direct lexical markers. Third, our machine learning models rely on annotated data, which introduces potential biases in labeling, particularly in cases where social support types overlap. Lastly, social media platforms themselves influence user interactions, meaning that findings from one platform may not generalize to others. Future research should address these limitations by incorporating more diverse datasets and refining classification techniques.

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