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Title: Predicción de Ideación Suicida en Jóvenes a partir del Análisis de Textos en Redes Sociales Escritos en Español de México: Una Revisión del Estado del Arte

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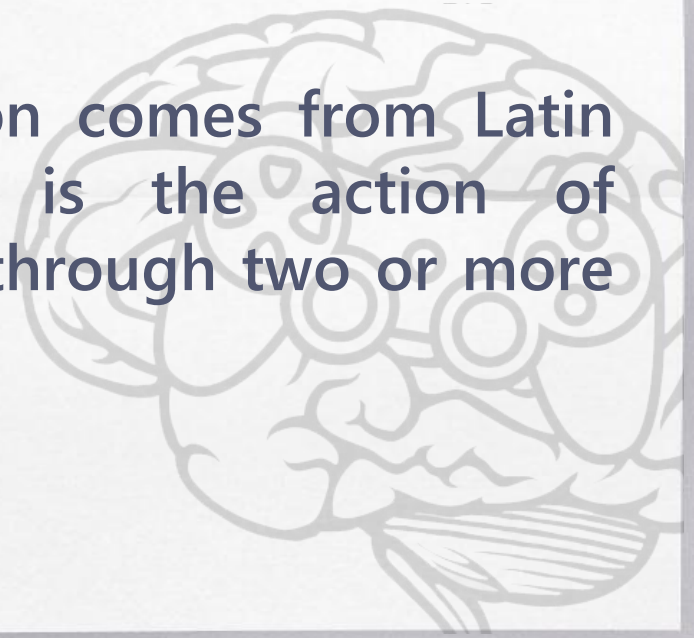
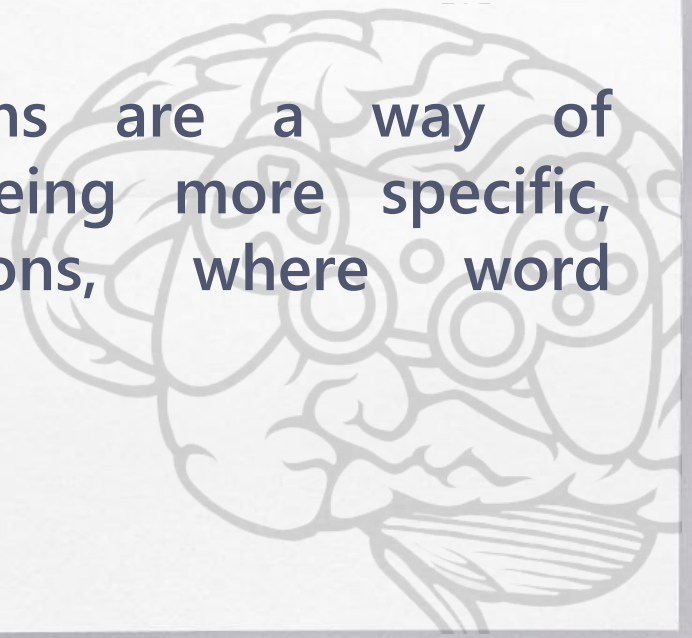
Antecedentes y Problemática

- The word communication comes from Latin communicatio, and it is the action of transmitting a message through two or more interlocutors (RAE, 2014).



Antecedentes y Problemática

- Psychological projections are a way of communicating, and being more specific, communicating emotions, where word analysis is one of these.

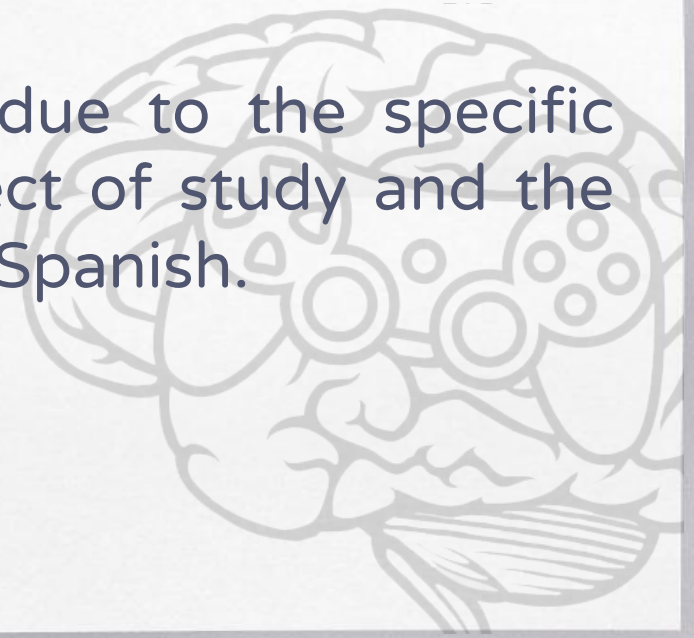


Antecedentes y Problemática

- The language can be quite complex, and Spanish is one of the languages with more variants. Being more specific, the Spanish used in Mexico, is different in some cases from the Spanish used in Spain, Colombia, Argentina, and others, adding more complexity to the situation.

Antecedentes y Problemática

- For this investigation, due to the specific complexity of the subject of study and the specific use of Mexican Spanish.



Criterios de búsqueda

Exclusion Criteria	Inclusion Criteria
1. Articles not written in Spanish or English.	1. Articles published in Spanish or English.
2. Studies to the full access is not available.	2. Articles in which the objective is the detection of language and that includes Mexican Spanish and articles around the world in which the objective is the detection of suicide risk from the analysis of the words using Natural Language Processing.
3. Newspapers, Review, thesis, letter toeditor, posters, thesis, short reports andbooks.	3. Articles published during the last ten years.

Detección del lenguaje

Maier, Wolfgang. Germany and Spain, 2014.
Title: Language variety identification in Spanish tweets. Purpose(s): Build a balanced collection of tweets sent by Twitter users from five countries, namely Argentina, Chile, Colombia, Mexico, and Spain. Applying different methods, they perform an automatic classification between all countries. Dataset: They built their own collection of tweets using the Twitter streaming API, 2 requesting all tweets sent within the geographic areas given by the coordinates -120, -55 and -29, 30 (roughly delimiting Latin America), as well as -10, 35 and 3, 46 (roughly delimiting Spain). The download ran from July 2 to July 4, 2014. In a second step, they sorted the tweets according to the respective countries. Method(s): n-gram. Best results: 67.7% correctly classified in some cases.
Zamperi, Marcos. Germany and Holland, 2013.
Title: N-gram Language Models and POS Distribution for the Identification of Spanish Varieties. Purpose(s): The paper presents supervised computational methods for the identification of Spanish varieties (Spain, Argentina, Mexico and Peru). Dataset: For Mexican Spanish, they used the database from El Universal newspaper. Method(s): n-gram. Best results: 83.1% correctly classified for Mexican Spanish.

Limpieza del mensaje

Frenda, Simona. Spain, 2019.
Title: Computational Models for Irony Detection in Three Spanish Variants. Purpose(s): They detect irony in tweets written in Spanish from Spain, Cuba andMexico. Dataset: The IroSvA shared task is separated on three subtasks: Irony detection in Spanish tweets from Spain, Irony detection in Spanish tweets from Mexico and Irony detection in Spanish news comments from Cuba. Method(s): They approached irony detection in Spanish short texts trying to exploit the provided topic information. In addition, they investigated the usefulness of stylistic, lexical and affective features during the development of the irony detection models for the three Spanish variants. Best results: 66.08% correctly classified for Mexican Spanish.
Salas-Zárate, María del Pilar. Spain, 2017.
Title: Automatic Detection of Satire in Twitter: A psycholinguistic-based approach. Purpose(s): They evaluated the effectiveness of our method by obtaining a corpus of satirical and non-satirical news from Mexican and Spanish twitter accounts. The processing of the tweets consisted of: delete mentions and replies to other users tweets, which are represented by means of strings starting with , remove URLs, i.e., strings starting with http://, the “#” character is removed from all hashtags because often, only the remainder of the string forms a legible word that contributes to a better understanding of the tweet. Dataset: They used a dataset concerning satirical and non-satirical news from Twitter accounts. For Mexican Spanish satirical: @eldeforma and @eldizque. For Mexican Spanish non-satirical: @ElUniversalMx and Excelsior. Method(s): LIWC (“Linguistic Inquiry and Word Count”). Best results: 85.5% correctly classified for Mexican Spanish.

PLN en el español de México

Cook, Benjamín. Spain, 2016.
Title: Novel Use of Natural Language Processing (NLP) to Predict Suicidal Ideation and Psychiatric Symptoms in a Text-Based Mental Health Intervention in Madrid. Purpose(s): Natural Language Processing (NLP) and machine learning were used to predict suicidal ideation for Spanish from Spain. Dataset: They work with information from psychiatric inpatient or emergency room settings in Madrid, Spain. Participants responded to structured mental and physical health instruments at multiple follow-up points. Outcome variables of interest were suicidal ideation and psychiatric symptoms (GHQ-12). Method(s): Novel method. Best results: Between 61% and 85% correctly classified for Spanish from Spain.

Notas póstumas en español de México

Chávez-Hernández, Ana María. Mexico, 2011.
Title: Notas suicidas mexicanas. Un análisis cualitativo. Purpose(s): Natural Language Processing (NLP) and machine learning were used to predict suicidal ideation for Spanish from Spain. Dataset: They work with information from psychiatric inpatient or emergency room settings in Madrid, Spain. Participants responded to structured mental and physical health instruments at multiple follow-up points. Outcome variables of interest were suicidal ideation and psychiatric symptoms (GHQ-12). Method(s): Ex post facto study, with a sample of 142 suicide notes left by people who committed suicide (2005-2008) in the State of Guanajuato, Mexico. Best results: 11 categories of suicide risk classification were found from the analysis of texts in Mexican Spanish with statistically significant differences.

Notas póstumas en español de Chile

Ceballos-Espinoza, Francisco. Chile, 2016.
Title: Profiling Chilean Suicide Note-Writers through Content Analysis. Purpose(s): Natural Language Processing (NLP) and machine learning were used to predict suicidal ideation for Spanish from Spain. Dataset: All suicide cases recorded from 2010 to 2012 were analyzed by the Chilean Investigative Police, with 203 notes of 96 suicides. Method(s): Field study, descriptive and ex post facto. Best results: 24 statistically significant differences were found throughout the categories of analysis, according to cohorts of age, marital status and sex of text in Chilean Spanish.
Ceballos-Espinoza, Francisco. Chile, 2019.
Title: Novel Use of Natural Language Processing (NLP) to Predict Suicidal Ideation and Psychiatric Symptoms in a Text-Based Mental Health Intervention in Madrid. Purpose(s): They explored affective mobilization in the moments prior to the suicidal acts. Dataset: 203 of suicide notes from completed suicides in Chile (2010 – 2012) Method(s): Psychological constant comparison and theoretical saturation. Best results: The findings showed mainly positive affection, negative affection, depressive affection, and despair. It was concluded that interpersonal problems and emerging affections constituted crucial elements to understand suicidal behavior.

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