HOW PEOPLE TALK ABOUT THEIR ILLNESS IN INTERNET?

A Preliminary Study Using the Spanish Version of LIWC

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- Computer-mediated communication has become a new source of informational or emotional support for many people suffering diseases around the world.
- The number of newsgroups, forums or bulletin boards created for Spanish-speaking patients is increasing. In these groups, participants seek information and/or share concerns about their illness conditions. These give us the possibility of better understanding the illness experience through the analysis of postings content.
- Text-analysis software has been designed to map linguistic and psychological variables of written messages and can be used to examine the postings of the LIWC Spanish version.

Recently, an Spanish version of the LIWC has been developed showing its applicability in Spanish texts (Ramírez-Esparza, García, Suriá, & Pennebaker, 2004).

OBJECTIVE

The aim of this study was to analyze the word choices of Spanish-speaking people in online forums of four disease groups as a function of sex and illness condition.

METHOD

A total of 387 postings of participants in four internet bulletin boards (diabetes, leukaemia, psoriasis and C hepatitis) were analyzed. Posts with at least 30 words were used.

The Spanish version of the Linguistic Inquiry and Word Count (LIWC) program, which has an internal dictionary of approximately 7000 words and word stems, was used to analyze the postings of the virtual forums.

The LIWC analyses written text on a word by word basis and calculates the percentage of the total words that matches up to 72 language categories and subcategories (see table)

RESULTS

LIWC Spanish dictionary captured 75.64% of the words in the messages.

Gender differences in word use

- Females used a higher rate of pronouns than males (t (756)=12.25; p<0.025).
- Related to “social processes” category, differences were found (see graphic).
- Analysis revealed no significant gender differences in the LIWC scores of “affective processes”, “cognitive processes” and “personal concerns”.

Differences in linguistic dimensions use by disease group

- Length of posted messages (word count) was different by disease group; participants with leukaemia (M=165.65 words) wrote significantly longer messages (p=0.004) than diabetics (M=97.19 words).
- LIWC Spanish dictionary captured 78.16% of the words in the postings written by people with leukaemia, 75.87% in the messages from diabetics, 74.91% in the hepatitis group and 74.10% in the messages posted by patients with psoriasis (p=0.005).
- “Self-reference” words (I, me, my, and I) and total first person pronouns or “self” (I, we, me) were used more frequently by diabetics group (p=0.005). Posts on the leukaemia board contained the highest percentage of total second person pronouns you, you’ (p=0.02). No differences in third person pronouns were found.

CONCLUSIONS

- LIWC Spanish dictionary captured a considerable amount of words written in our four on-line groups comparable to previous results with English dictionary of LIWC. This result supports the construct validity of the LIWC Spanish version.
- This preliminary exploratory work shows some interesting differences in the style of expression by disease. Leukaemia group used significantly more relational pronouns and positive feelings words suggesting a warm and supportive pattern of communication. Messages from diabetics people contained more self-reference words which may be providing evidence about their usual references to personal experiences with the complex and changing treatment regimen in these patients. Posts on the psoriasis board contained the highest percentage of “grooming” words and the LIWC dictionary captured the smallest percentage of their words. These results may be showing the peculiarities of this skin disease and the recurrent people's references to new or alternative treatments which the LIWC dictionary didn't capture.

Differences in “social processes” and “personal concerns” by disease group

REFERENCES


LIWC Categories

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LIWC Categories

- Pronouns
- Affective Processes
- Cognitive Processes
- Personal Processes
- Social Processes
- Perceptions
- Feelings
- Education
- Religion & Death
- Physical States (Body Functions)
- Language
- Emotion
- Gender
- Age
- Appearance
- Weight

LIWC Subcategories

- Word Count
- Words captured
- Articles, Prepositions...
- Pronouns
- Positive Feelings
- Insight
- Inhibition

LIWC Examples

- Word Count: LIWC 2001
- Affective Processes: happy, ugly, joy, love, sad...
- Cognitive Processes: see, touch, view...
- Personal Processes: I, me, my, we, our...
- Social Processes: you, you’, you’ll...
- Perceptions: think, because, should...
- Feelings: love, hate, hate...
- Education: teach, learn, study...
- Religion & Death: God, church, heaven...
- Physical States: sick, illness, disease...
- Language: family, children, language...
- Emotion: pain, happy, fear...
- Gender: male, female, man...
- Age: child, young, senior...
- Appearance: fat, thin, healthy...
- Weight: diet, lose, gain...

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“Self-reference” words (I, me, my, and I) and total first person pronouns or “self” (I, we, me) were used more frequently by diabetes group (p=0.005). Posts on the hepatitis board contained the highest percentage of total second person pronouns you, you’ (p=0.02). No differences in third person pronouns were found.

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