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Mind mapping: Using everyday language to explore social & psychological processes

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Abstract

The ways we express ourselves in writing and speaking reveal who we are. Historically, most psychologists, social media experts, and even computer scientists have focused more on what people were saying rather than how they were saying what they were saying. Language content is, of course, critical to basic communication. Equally interesting is an analysis of common words associated with speaking style — words such as pronouns, prepositions, articles, and other function words. An increasing number of studies have found that function words (also thought of as stop words) provide clues to deception, status, intelligence, emotional state, the quality of social relationships, and personality. In addition to summarizing recent research on the social dynamics of language, the talk will point to the natural alliance of computer science and the field of social and personality psychology..

Keywords: LIWC; language; text analysis; function words; social media; expressive writing

1. Introduction

2. Computer scientists, engineers, and computational linguists think about the language of social media very differently from psychologists. The primary goal of computer scientists is to categorize people or text samples in the most efficient and accurate ways possible. Social psychologists like me don't think this way. We are primarily interested in understanding what makes

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people tick and, when looking at texts, what the texts reveal about the people who authored them. We don't think much about how well we predict. Instead, we want to know why people behave the ways they do. This different way of thinking often leads to problems in communication between both groups when they are studying social media.

The purpose of this paper is to describe how psychologists go about studying the words people use in their email, Twitter feeds, or Facebook posts to help reveal motivations, thinking styles, social relationships, and personalities. Part of the story is autobiographical. My appreciation of the power of words came about through a series of unexpected discoveries.

1.1. Health and Expressive Writing

My early research focused on the social psychology of health and illness. Early on, I stumbled on an unexpected finding: people who reported having had a major traumatic experience in their lives and who had kept the trauma secret, were much more likely to have health problems than if they had not kept it secret. Having big secrets is bad for your health. The date are really quite impressive. The bigger the secret the more likely you are to have health problems.

The health risk of secrets led to another line of research. What if we asked people who were keeping big secrets to disclose them? Would talking or writing about a secret improve their health? This led to the discovery of the expressive writing method where we asked people to write about a traumatic experience for 15 minutes a day over a period of four days. In the studies, college students were randomly assigned to either write about traumas or about superficial topics in the lab. We got permission from the students to get their student health records. The first study revealed that writing about traumatic experiences was associated with reductions in Student Health Center visits by about half, compared to students in the control condition[1,2].

We soon replicated the finding by measuring participants' immune system activity. By drawing blood before the study and again several weeks after, we discovered that expressive writing enhanced immune activity compared to writing about superficial topics[3]. Soon, labs around the world started testing the expressive writing idea. And as of today there are probably 400 published articles using this expressive writing method[4]. Study after study has demonstrated that writing about emotional upheavals can improve physical and mental health. The studies are not always successful but, on average, writing produces modest but consistent benefits.

What is it about writing that accounts for health improvements? There is not one silver bullet that explains it. Putting emotional experiences into words changes the way that the events are organized in the brain. Writing changes the way people think about the events. People's social behaviors also change in the weeks and months afterwards[5]. Other studies find that writing helps people to sleep better and to think more clearly[6].

As multiple labs started investigating why writing worked, I started looking at people's writing samples. Because not everyone benefited from expressive writing, it was possible that there could be some way to identify healthy writing versus non-healthy writing. In other words, can you look at people's essays and get a sense of what will put them along a path associated with better health? If so, we could streamline the writing instructions to help people write more efficiently.

Distinguishing between healthy and unhealthy writing was a more complex task than I bargained for. Initially, my students and I recruited a group of clinical psychologists to read essays from earlier writing studies. The psychologists did not know which essays were associated with health improvements. Their goal was simply to rate the essays along how narrative they were, how personal, how emotional, etc. As you might guess, human judges cannot agree on what is a good story. They could agree on some broad dimensions, such as if a given essay exhibited positive or negative feelings. The problem was that almost all of the essays dealt with deeply disturbing topics. The judges ended up taking a very long time to wade through the disturbing stories,