

A linguistic analysis of user-generated book reviews: Truthful, deceiving or influential?

Lala Hajibayova

Kent State University, School of Information

lhajibay@kent.edu

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INTRODUCTION

This study presents an analysis of 474,803 unique Goodreads reviews of the top-rated books in 2014. Studies of user-generated reviews have considered a range of issues, including analysis of what makes a review helpful (e.g., Otterbacher, 2011), such as evaluating helpfulness of reviews (e.g., Lee & Koo, 2015) and evaluating linguistic characteristic of reviews (e.g., Aerts, Smits, & Verkegh, 2017). For example, Mudambi and Schuff's (2010) analysis of Amazon.com reviews found that depth and product type affect the perceived helpfulness of a review, and reviews with extreme positive and negative ratings are considered less helpful than those with moderate ratings.

Goodreads, an Amazon-owned book-based social web site, has become a popular platform for readers and writers to connect with one another, read and post reviews, and carry on discussion of literary topics. Goodreads has 75 million members who have provided 70 million reviews of 2.2 million books (Goodreads, n.d.). Goodreads' reviews are considered a valuable resource for library acquisitions and reference services (Thelwall & Kousha, 2017) and recognized by the major library cataloguing services, such as WorldCat. However, the practice of recommending Goodreads reviews raises a number of questions, such as how particular reviews are identified as relevant to users' searches and what criteria WorldCat algorithms utilize to suggest reviews and potentially influence individuals' reading choices (Hajibayova, 2017).

METHODS

Individuals' language has been long considered a valuable resource for gaining insight into their psychological characteristics (Boyd & Pennebaker, 2017). Biber (1991, 1993), for example, observed significant differences among various types of texts, such as more frequent use of first person pronouns and present-tense verbs in the romance novels.

This study utilized the Linguistic Inquiry and Word Count (LIWC) computational linguistic application (Pennebaker, Boyd, Jordan, & Blackburn, 2015; Pennebaker, 2011) to investigate how individuals' formal and informal written and spoken language reflect their psychological states (Pennebaker, Boyd, Jordan, & Blackburn, 2015; Pennebaker, 2011).

For each given text LIWC analysis yields approximately 90 output variables, including word count, four summary language variables (analytical thinking, clout, authenticity, and emotional tone), three general descriptor categories (words per sentence, percent of target words captured by the dictionary, and percent of words in the text that are longer than six letters), 21 standard linguistic dimensions (such as percentage of words in the text that are pronouns, articles, auxiliary verbs), 41 word categories tapping psychological constructs (such as affect, cognition, biological processes, drives), six personal concern categories (such as work, home, leisure activities), five informal language markers (such as assents, fillers, swear words, netspeak), and 12 punctuation categories (such as periods, commas). An LIWC Dictionary is composed of almost 6,400 words, word stems, and select emoticons. The LIWC application assigns each word into defined linguistic categories and provides the total number of words in each category in relation to the total number of words in the given text (Pennebaker, Boyd, Jordan, & Blackburn, 2015).

RESULTS AND DISCUSSION

Analysis of 474,803 reviews revealed an average of 45 words per review ($M = 45$, $SD = 162.89$).

Linguistic analysis of reviews revealed strong correlation between use of personal pronouns (.589), impersonal pronouns (.627), auxiliary verbs (.733), negations (.494), and some positive emotions (-.301). The high use of personal and impersonal pronouns, auxiliary verbs and negations reflect the overall extensive use of function words in the English language (Chung & Pennebaker, 2007). However, the optimistic writings may suggest some form of deception (Pennebaker, 2011), which has been also reported in studies of online reviews (e.g., Zhou, Burgoon, Nunamaker, & Twitchell, 2004). The relatively high use of function words coupled with a positive tone may also imply reviewers' intention to promote their review and influence one's reading choice.

The findings of this study suggest that a relatively high use of function words coupled with the predominantly positive

tone of reviews can be interpreted as reviewers' attempt to influence one's reading choices. This study also suggests that transparency regarding inclusion of user-generated reviews in traditional systems of information representation and organization should be considered. In particular, inclusion of certain Goodreads reviews as relevant to users' searches in WorldCat should also include information on how/why utilized algorithms suggest certain reviews and potentially influence individuals' reading choices (Hajibayova, 2017).

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