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Words of advice: Exposure to website model pictures and online persuasive messages affects the linguistic content and style of Women's weight-related social support messages

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ABSTRACT

This study examined how exposure to thin/obese and attractive/unattractive model pictures in websites affected language use when responding to weight loss or body acceptance posts. Participants exposed to attractive models were less socially oriented as indicated by using fewer function words and pronouns. These participants also used fewer discrepancy words (e.g., could, would), which may reflect upward social comparisons and activation of physical attractiveness stereotypes. Additionally, participants exposed to obese and unattractive models used more pronouns and perception words (e.g., weight, thin), implying downward social comparisons and priming of unhealthiness stereotypes that increased attention to other people's body shape. The findings show how words of advice are affected by situational cues including website images and persuasive posts.

1. Introduction

The ways in which people provide online social support is a central communication research area (Braithwaite, Waldron, & Finn, 1999). Social support refers to verbal and nonverbal messages conveying emotion, information, advice, or referral, to help reduce people's uncertainty or stress, with a focus on how this occurs electronically (Walther & Boyd, 2002). Recent studies focus on how situational cues present in online social support venues influence the amount and quality of users' online social support messages. For instance, support seekers whose user profiles contained a portrait picture and a first name receive more polite and person-centered support messages (i.e., messages that show more adaptation to partner and context) compared with support seekers with no portrait picture and a first name (Feng, Li, & Li, 2013). Portrait photos and first name present alongside a social support message may reduce uncertainty about support seeker's identity and also increase personal involvement (i.e., social presence, Feng et al., 2013). In addition, exposure to online social support messages posted in response to an initial support request increase other people's emotion-focused supportiveness in their subsequent comments in comparison to exposure to unsupportive previous posts (Li & Feng, 2014). Relative to participants exposed to unsupportive comments, those who read supportive comments express more liking of the support seeker, and increased liking is positively associated with increased emotion-focused supportiveness in subsequent posts (Li & Feng, 2014).

Though these studies show how exposure to situational cues (e.g., presence or absence of support seekers' pictures and names, supportive or unsupportive tone of response messages) influence the politeness and emotion-focused supportiveness of social support messages that people subsequently provide, there are fewer studies focusing on how exposure to models' pictures embedded in fashion websites influence the words that people subsequently employ in response to online forum requests for weight-related advice.

This study focused on that question, which has ample theoretical and practical implications. As detailed below, exposure to ideal

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body images (e.g., thin and attractive models and spokespeople) increases body dissatisfaction and negative affect among young women in ways congruent with social comparison and priming predictions (Levine & Harrison, 2009; López-Guimerà, Levine, Sánchez-Carracedo, & Fauquet, 2010). Though it is conceivable that similar effects occur when women are exposed to website pictures (e.g., fashion blogs, Pinterest albums), the exposure effects of models' pictures in websites on language use when providing online social support to weight-related concerns has not been sufficiently examined and are worth exploring further. Consider that online images of meals are rated as lower in nutritional quality when the picture of the blogger who recommended a meal is depicted as obese instead of having a normal weight (Schuldt, Guillory, & Gay, 2015). This effect is mediated by stereotypic beliefs about the recommender as an unhealthy person (Schuldt et al., 2015). Based on this, exposure to photos in websites will likely affect the words that people later use to construct online social support messages linked to weight management.

In addition, people are exposed to radically differing views on the same topic when searching for weight management advice. For example, pro-eating disorder blogs advocate for extreme weight loss strategies, while eating disorder recovery blogs approach weight and body image recommendations from the perspective of convalescence and self-acceptance (Wolf, Theis, & Kordy, 2013). Considering this, we examine how exposure to pro extreme weight loss or pro body acceptance online posts directly affects participants' language use when composing a response to such messages. Also, consider that using the words contained in pro and anti issue messages can lead to self-persuasion effects as predicted by cognitive dissonance and consistency theories because people's attitudes may change to fall in line with verbal behavior (Cialdini, Petty, & Cacioppo, 1981). However, the combined effects of website pictures and weight-related persuasive posts on language use as a measure of self-persuasion have not been examined. Below we elaborate on key linguistic factors linked to health outcomes and then discuss previous research in order to understand how exposure to (1) thin or obese and (2) attractive or unattractive pictures on a website may affect the linguistic features of social support messages when responding to (3) pro extreme weight loss or pro body acceptance online posts.

2. Linguistic style as a metric of cognitive, emotional, and social processes

Previous research has quantified by means of human coders how people express broad types of online social support messages, including information, emotion, esteem, network, and tangible support (Braithwaite et al., 1999), politeness and person-centeredness (Feng et al., 2013), and emotion and action-focused supportiveness (i.e., previously enacted or intended actions, Li & Feng, 2014). Thus, this research body examines what people try to convey in their social support messages but not exactly what words they employ to construct such messages.

Though this approach is informative, much can be learned by studying the objective linguistic features of online social support messages. Using automated linguistic analysis techniques, Wolf et al. (2013) found that pro-eating disorder blogs contain fewer pronouns, cognitive processing words and emotion-related words, feature a more closed-minded writing style (e.g., increased use of *must*, *very*, *totally*), and focus more on eating-related words (e.g., *eat*, *swallow*, *taste*) than recovery blogs. This implies that pro-eating disorder blogs are more single-mindedly focused on food and less so on other people and emotions (Wolf et al., 2013). Automated analysis may be a powerful tool to understand the linguistic structure of online social support messages. For example, Alpers et al. (2005) analyzed the posts of women in an online breast cancer support group with human raters and an automated text analysis software called Linguistic Inquiry and Word Count (LIWC, Pennebaker, Francis, & Booth, 2007). The linguistic categories and human ratings were moderately correlated, thus indicating concurrent validity between LIWC and human coders, with the added benefit that LIWC can analyze vast quantities of online social support posts (Alpers et al., 2005; Hekler, Dubey, McDonald, Poole, Li, & Eikei, 2014).

Several linguistic factors are indicative of people's mental states (Chung & Pennebaker, 2007). For example, word counts are a crude but effective way of measuring self-disclosure in computer-mediated contexts (Joinson & Paine, 2007). In addition, pronoun use says much about people's focus of attention and coping processes. For example, increased use of first person singular pronouns (e.g., *I*, *myself*) reveals higher attention on the self, while an increased use of third person pronouns (e.g., *she*, *they*) reveals a more social focus on other people (Chung & Pennebaker, 2007). In health and social support contexts, an increased use of first person pronouns is linked to higher blood pressure among coronary-prone Type A interviewees (Chung & Pennebaker, 2007). In addition, when writing about college, students currently experiencing depression use more first person singular pronouns than students that were formerly depressed or never depressed students, and formerly depressed students use more first person singular pronouns than never depressed students (Chung & Pennebaker, 2007). In sum, increased first person singular pronoun use is linked to negative affective states, stress, and decreased health. In comparison to this, the use of third person pronouns (e.g., *she*, *they*) is associated with adaptive coping that may lead to physical health benefits. For instance, when writing about personal upheavals, people who switch from high rates of first person singular pronouns to other personal pronouns (e.g., *she, they*) show greater health improvements (Chung & Pennebaker, 2007).

The extent to which people express affect is indicative of how people experience their surroundings. For example, in the context of women posting in an online cancer support website, the highest correlations between LIWC and human raters are found for negative emotion (e.g., *bad*, *devastating*), sadness (e.g., *loss*, *misery*), positive emotion (e.g., *happy*, *grateful*), and social issues (e.g., *friend*, *colleague*, Alpers et al., 2005).

Word choice is also a marker of cognitive processes. For instance, the use of causal (e.g., *because*, *effect*, *hence*) and insight words (e.g., *think*, *know*, *hence*) suggests active appraisal processes. These words signal reflection and causal thinking, and increased use of causal and insight words is linked to health improvements in expressive writing contexts (Tausczik & Pennebaker, 2010). In addition, people use more tentative language (e.g., *maybe*, *perhaps*, *guess*) when feeling uncertain or doubtful, and in some contexts tentative words suggests that a people have not yet processed an event and formed a narrative (e.g., romantic breakups, see Tausczik & Pennebaker, 2010). Discrepancy words (e.g., *could*, *would, mistake*) also reflect cognitive processes as they show that an event did not occur in a desirable manner (Tov, Ng, Lin, & Qiu, 2013). For instance, more conscientious students use fewer discrepancy words when writing about themselves, perhaps reflecting that they planned out things carefully and have fewer regrets (Tausczik & Pennebaker, 2010).

Function words are also psychologically informative and include pronouns, articles, conjunctions, auxiliary verbs, and prepositions (Chung & Pennebaker, 2007). Function words hold content words together (e.g., *he was* sad; *she will* ponder) and represent people's linguistic style or how people put words together when creating a message (Chung & Pennebaker, 2007). For example, the use of conjunctions (e.g., *and*, *whereas*, *but*) reflects people making