"I'm Drowning Here!" Metaphor Comprehension and Personality

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Abstract

Recognizing the emotional content of language is essential to successful communication. Language contains both connotative and denotative information. Recognizing both is important, particularly in an age where communication is regularly conducted over email and text messaging, without the aid of nonverbal cues. Some people can understand denotative information without recognizing connotative information (Hervé, Hayes, & Hare, 2003). Thus, separate assessment of both skills is required.

The present study examines the relationship between personality traits and the ability to recognize emotional connotations in metaphors. This study explores what types of people are more skilled at perceiving emotionally laden language – the kind of language that may occur when people face stress in their personal and professional lives, the kind of language that will have the most impact when it is interpreted correctly or misunderstood.

One hundred and six participants completed the Metaphors Test (Barchard, Anderson, Hensley & Walker, 2011) and the International Personality Item Pool 50-item Big Five Scale (Goldberg, 1999). The 30-item Metaphors Test requires respondents to indicate the degree to which metaphors express certain emotions. The 50-item Big Five Scale measures openness, conscientiousness, extroversion, agreeableness, and neuroticism.

The ability to identify the emotional connotations of metaphors was significantly related to both openness ($r(104)= .28$, $p < .01$) and agreeableness ($r(104) = .28$, $p < .01$). In other words, those who are open to art and intellectual pursuits and those who are more cooperative and therefore perhaps more interested in communication are better at decoding the emotional content of written metaphors. This suggests that the people who want to communicate with others are also better at doing so. Future research should examine whether people who score higher on the Metaphors Test are actually better at communicating with others, and whether this test would be useful in selecting people for positions that involve emotionally laden writing, such as online counselors.

Introduction

Imagine you are a professor who receives the following email from a student: "Dear Dr. Smith, I'm drowning here! It feels like the deadline for this paper is coming at me like a train. I've been told that I look like a ghost, and I feel like I'm wasting away. You know that I'm usually a workhorse when it comes to your papers, but this one is evading me. What can we do about this situation?" The student clearly wants an extension on the deadline for an upcoming paper. However, the student never says so explicitly. In order for you to respond appropriately to this email, you must recognize the emotional connotations of the language contained within it. The ability to recognize the emotional connotations of language is one part of emotional intelligence, one which may be particularly important in an age where people rely heavily on written media, such as text messages, social networking sites, bulletin boards, or the email to Dr. Smith above.

Language contains both denotative and connotative information (Lyons, 1977). Denotative information is information that is directly expressed by the words themselves – information contained in the dictionary. Connotative information is that which is implied, and can include emotional content. For example, the saying "He is the center of my universe" expresses the denotative information that the subject is important to the speaker. The saying also expresses the emotional connotations of love and dedication. Metaphors can be particularly useful for expressing connotations. However, some people can comprehend the denotative information in metaphors, without comprehending even the simplest emotional connotations of that language (i.e., positive or negative emotions; Hervé, Hayes, & Hare, 2003).

Emotional abilities are often associated with personality traits. The Big Five Model of Personality—which includes openness, conscientiousness, extroversion, agreeableness, and neuroticism—is a widely used model of personality that has demonstrated high validity (McCrae & Costa, 1991; Costa & McCrae, 1985). In a meta-analysis of studies concerning the relationship between emotional intelligence and personality, emotion perception tended to have moderate, positive correlations with conscientiousness, and somewhat smaller, positive correlations with the other Big Five traits (Joseph & Newman, 2010). Thus, depending upon various personality characteristics, Dr. Smith might or might not recognize the metaphors in the email given above.

The Metaphors Test (Barchard, Anderson, Hensley & Walker, 2011) is a new test that attempts to capture a unique aspect of emotional intelligence – the ability to perceive connotative information in language. The test instructs respondents to indicate the degree to which certain metaphors convey emotional content. The present study aims to examine the relationship between the ability to recognize emotional information in metaphors and personality characteristics. In an age where understanding written communication is important, knowing which personality traits are related to that skill is vital.

Figure 1
Example Item from the Metaphors Test

	Not at all	A little	Somewhat	A lot	Extreme
His face is a ray of sunshine.					
uplifted	1	2	3	4	5
embarrassed	1	2	3	4	5
admiration	1	2	3	4	5

Method

Participants

A total of 106 undergraduate students (60 female, 46 male) completed this study for course credit. Their ages ranged from 18 to 39 (mean = 19.99, SD=3.37). Participants identified themselves as: 57.5% Caucasian, 15.1% Hispanic, 10.4% Asian, 6.6% African American, 5.7% Pacific Islander, .9% Native American, and 3.8% Other.

Measures

The Metaphors Test (Barchard et al., 2011; see Figure 1) is a test of emotion perception. Participants indicate the extent to which given metaphors express particular emotions using a five-point scale (where 1 is "Not at all" and 5 is "Extremely"). The test contains ten metaphors, each paired with three emotions, for a total of 30 items. It is scored using proportion consensus scoring, which means that a participant's score is equal to the proportion of respondents in the norm group who gave the same response. For example, if 35% of respondents in the norm group gave an answer of "5, extremely" for the first emotion on the first metaphor, a participant would receive a score of .35 for providing that answer.

The International Personality Item Pool (Goldberg, 1999) is a public-domain item pool that is freely available on the Internet. We used the 50-item Big Five Scale, which uses 10 items to measure each of openness, conscientiousness, extroversion, agreeableness, and neuroticism. Items are scored using a five-point Likert scale, where 1 is "Very Inaccurate" and 5 is "Very Accurate".

Procedures

Participants completed these two measures as part of a larger study in two, online, 90-minute testing sessions.

Data Analysis

To examine the relationship between personality and the perception of connotative language, we calculated the correlations between the five personality traits and the Metaphors Test.

Results

We found moderate, positive correlations between the Metaphors Test and both openness and agreeableness. Conscientiousness, extraversion, and neuroticism were not significantly correlated with the Metaphors Test. See Table 1.

Table 1
Correlations with the Metaphors Test

Personality Trait	r
Openness	.28*
Conscientiousness	.08
Extraversion	.11
Agreeableness	.28*
Neuroticism	-.01

*$p < .01$.
Note. df = 104.

Discussion

This study examined the relationship between perception of connotative language in metaphors and personality. We found two significant relationships. First, emotion perception was related openness, which includes receptivity to art, new experiences, and unusual ideas (McCrae, 1987). This makes some theoretical sense, because metaphors are a component of poetry and literature. Second, the ability to perceive emotions in metaphors was related to agreeableness, which includes the tendency to be compassionate and cooperative (Graziano & Tobin, 2009). This may be because those who are high on agreeableness are more interested in, and therefore attentive to, others' communication. If Dr. Smith appreciates art, seeks out new experiences, cooperates with others, and is compassionate, there is a better chance that the student's email will be understood.

Our results can be contrasted with previous research on emotion perception, which found moderate relationships with conscientiousness but only small relationships with openness and agreeableness (Joseph & Newman, 2010). This divergent results support the idea that the Metaphors Test is capturing a unique aspect of emotion perception. While other tests of emotion perception have primarily used non-verbal stimuli, the Metaphors Test uses verbal stimuli which do not include any explicit emotion words.

The ability to comprehend the emotional connotations of writing is a new kind of emotion perception. In the modern world of ubiquitous text-based communication, it is an essential skill. Future research should examine whether people who are able to decipher the emotional connotations of verbal material are in fact better at communicating with others using text-based media, and whether this skill is be useful in selecting people for positions that involve emotionally laden writing, such as online counselors.

References

Barchard, K. A., Anderson, E. D., Hensley, S., & Walker, H. E. (2011, May). *The Metaphors Test: Using verbal stimuli to measure emotion perception*. Poster presented at the Association for Psychological Science Annual Convention, Washington, DC.

Costa, P. T., & McCrae, R. R. (1985). *The NEO Personality Inventory Manual*. Odessa, FL: Psychological Assessment Resources.

Goldberg, L. R. (1999). A broad-bandwidth, public-domain, personality inventory measuring the lower-level facets of several five-factor models. In I. Mervielde, I. Deary, F. De Fruyt, & F. Ostendorf (Eds.), *Personality Psychology in Europe, Vol. 7* (pp. 7-28). Tilburg, The Netherlands: Tilburg University Press.

Graziano, W. G., Tobin, & Renée M. (2009). Agreeableness. In *Handbook of individual differences in social behavior*. Leary, Mark R. (Ed.); Hoyle, Rick H. (Ed.); New York, NY, US: Guilford Press, 2009. pp. 46-61.

Hervé, H. F., Hayes, P. J., & Hare, R. D. (2003). Psychopathy and sensitivity to the emotional polarity of metaphorical statements. *Personality and Individual Differences*, *35*(7), 1497-1507. doi:10.1016/S0191-8869(02)00365-3.

Joseph, D., & Newman, D. (2010). Emotional intelligence: An integrative meta-analysis and cascading model. *Journal of Applied Psychology*, *95*(1), 54-78.

Lyons, J. (1977). *Semantics Vol. 1*. New York: Cambridge University Press.

McCrae & Robert R. (1987). Creativity, divergent thinking, and openness to experience. *Journal of Personality and Social Psychology, 52*(6), 1258-1265.

McCrae, R. R., & Costa, P. T. (1991). The NEO Personality Inventory: Using the five-factor model in counseling. *Journal of Counseling & Development, 69*(4), 367-372. Retrieved from EBSCOhost.