

Background

Irony

Figure of speech communicating the opposite of what is said [1]

Can be harder to understand than literal language. So why use it?

- draw attention to contrast between desired state of affairs and reality [2]

- serves additional functions:
humour; aggression;
restraint; ridicule / tease [3,4,5,6]

That's a great idea!

It is controversial whether irony increases or decreases emotional impact of a message

- irony reduces threat or overall strength of a message:

Tinge Hypothesis [7]

- irony enhances impact of a comment [8]

Emoticons

Can indicate emotion...

More likely used as pragmatic markers to contextualise / modify utterance [9]

Often appear with written irony
Some agreement on emoticons that mark sarcasm / irony:

:) :p ... :;

May also increase enjoyment [10]

:p



Results & Discussion

Participants

Power analysis showed at least 43 participants were required

53 native-English speakers

- mean age 24

- 19 males

Six showed no EDA response and were excluded

47 were entered into analyses

Analysis

Pre-processing and analyses in Matlab

- facial EMG data were band-pass filtered, then rectified and low-pass filtered

- trials with extreme EMG values were eliminated and outliers removed

- skin conductance signals were down-sampled to 16 Hz

- analysed with Ledalab toolbox using Continuous Decomposition Analysis CDA (tonic and phasic)

ANOVAs with repeated measures on:

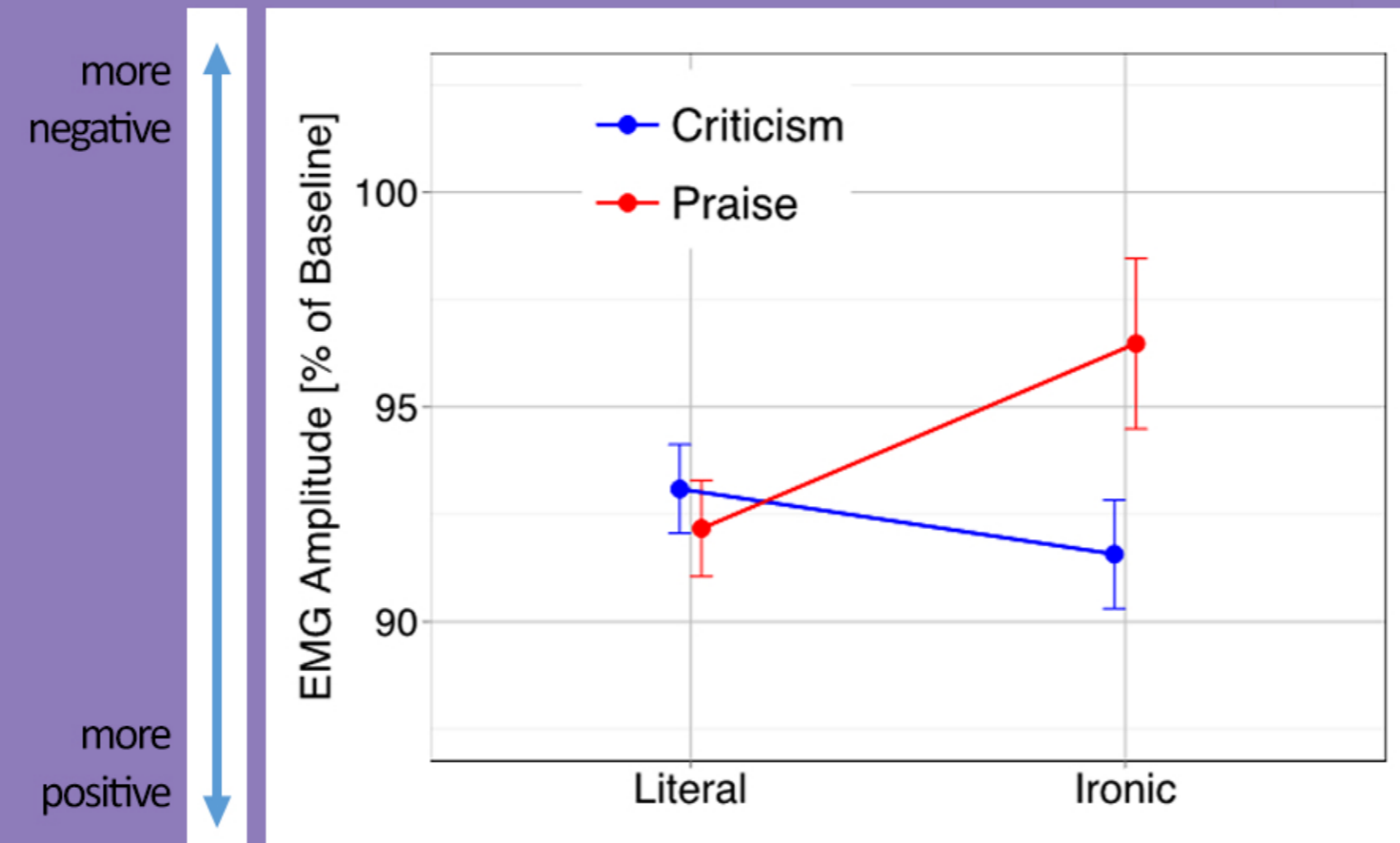
- polarity (praise vs criticism)

- literality (literal vs ironic)

- emoticon (absent vs present)

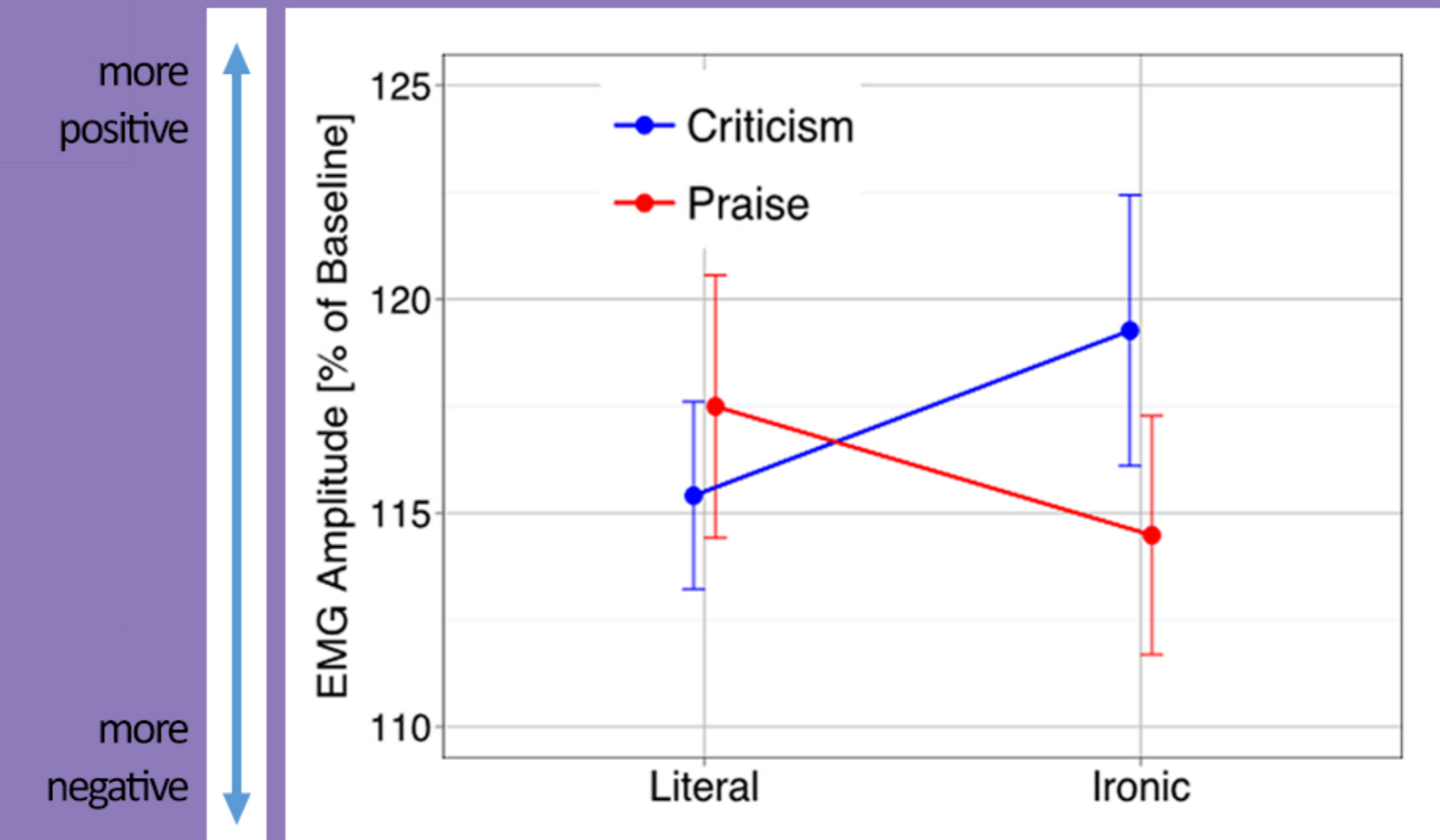
Irony

EMG, frowns



Interaction of literality x polarity:
 $F(1,46) = 6.77, p < .05$

EMG, smiles



Interaction of literality x polarity:
 $F(1,46) = 3.20, p = .08$

Aims & Hypotheses

Previous studies on emotional impact of irony usually relied on ratings.

- highlights specific aspects of materials
- allows participants to reflect
- fails to capture immediate emotional responses

We aim to **capture immediate emotional responses** using EDA (arousal level) and EMG (presence and degree of certain emotions)

Does irony **mute** emotional response?

- reduced EDA
- reduced smiles in praise
- reduced frowns in criticism

or **enhance** emotional response?

- increased EDA
- increased smiles in praise
- increased frowns in criticism

We expect emoticons to generally increase positive emotion [10]

Emoticons

EDA

Main effect of emoticon:

Larger amplitude observed when an emoticon was present vs absent, for both:

- average SCR (0.280 vs 0.266 μ S)
 $F(1,46) = 4.30, p < .05$

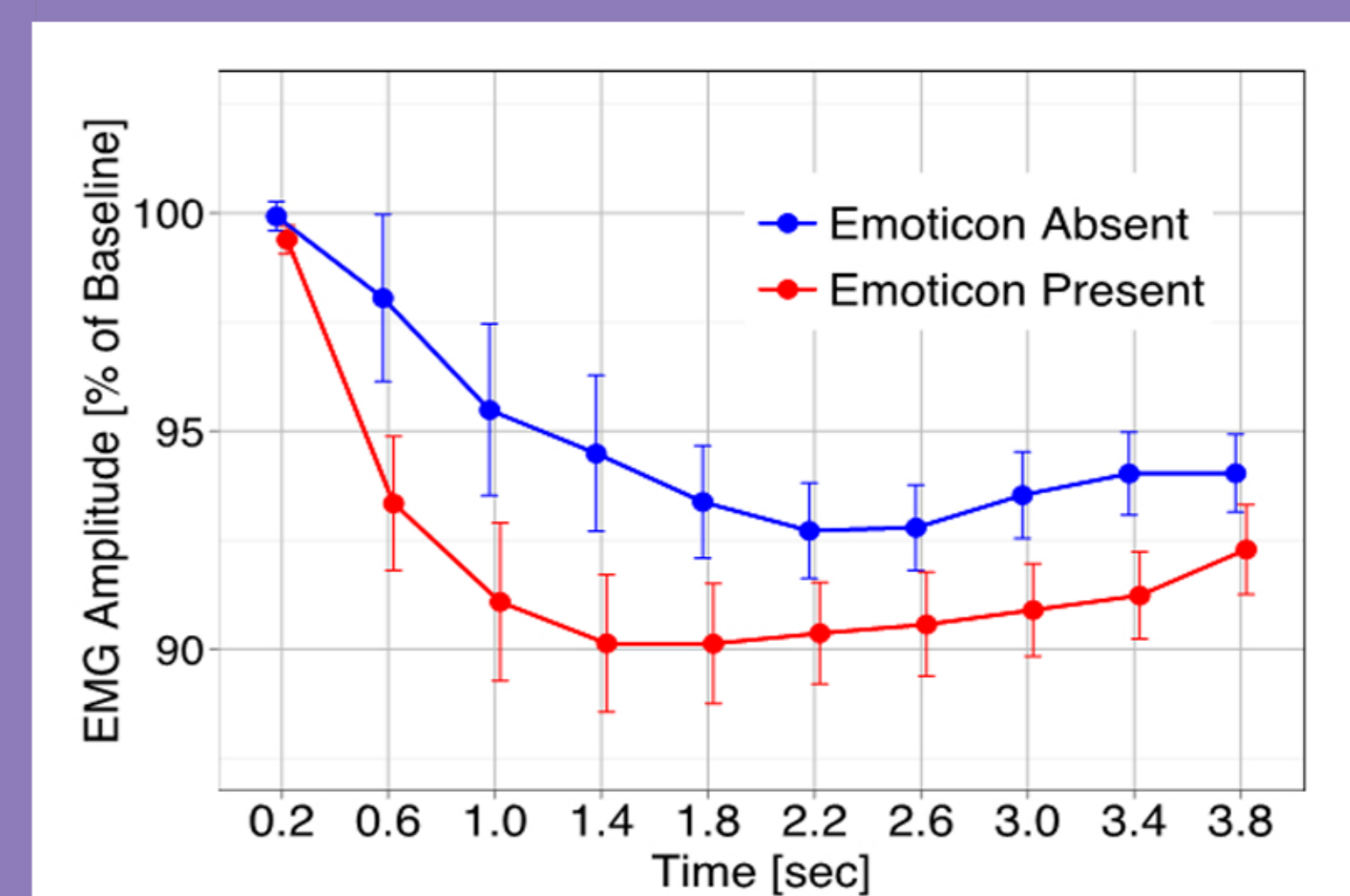
- maximal SCR (0.563 vs 0.523 μ S)
 $F(1,46) = 7.00, p < .05$

Emoticons are more arousing, but is this positive or negative?

EMG, smiles

Main effect of emoticon: enhanced smiling with an emoticon (all time windows) $F(1,46) = 9.22, p < .01$

EMG, frowns



Main effect of emoticon: reduced frowns with an emoticon $F(1,46) = 9.22, p < .01$

Method

For **recording** a Biosemi Active-Two amplifier was used for monitoring of both **EDA** and **facial EMG**

- zygomaticus major (smiles)
- corrugator supercilii (frowns)

Materials

2 x 2 x 2 within-subjects design
- polarity (praise vs criticism)
- literality (literal vs ironic)
- emoticon (present vs absent)

160 items

4 blocks + comprehension questions

Disambiguated by final word

Analyses time locked to onset of critical word

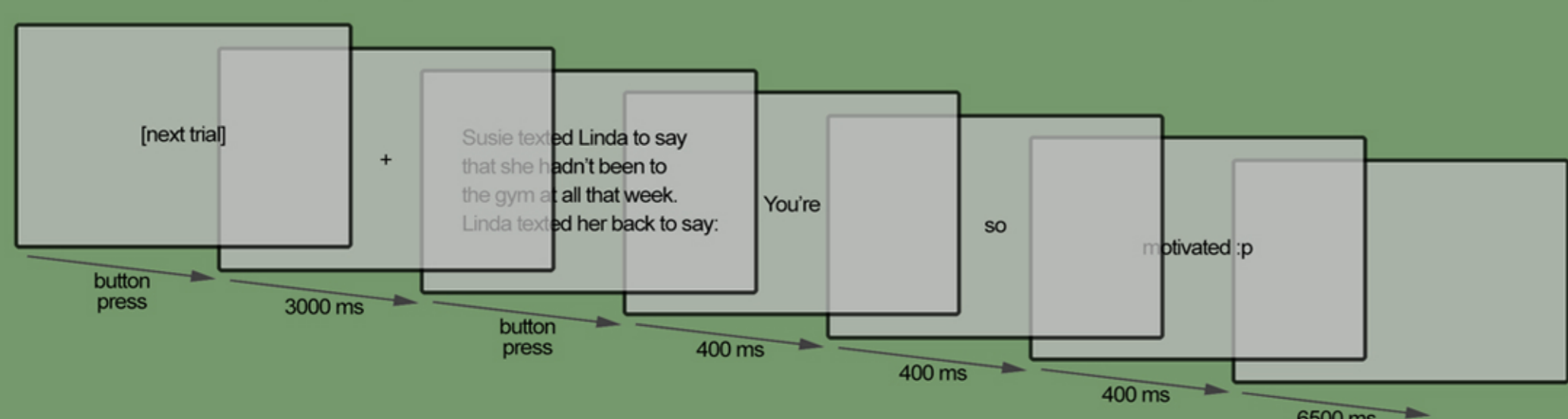


criticism Susie texted Linda to say that she hadn't been to the gym at all that week. Linda texted her back saying:

You're so unmotivated :p You're so motivated :p

praise Susie texted Linda to say that she had been to the gym every day that week. Linda texted her back saying:

You're so unmotivated. You're so motivated.



Irony appears to **weaken** emotional response to comments versus literal language.

For **criticism**, when it was delivered ironically, we observed:

- a reduction in frowns
- a corresponding enhancement in smiles

For **praise**, when it was delivered ironically, we observed:

- a reduction in smiles
- a corresponding enhancement in frowns

Irony appears to reduce the emotional impact of a message, making criticism less negative and praise less positive

This is in line with Tinge Hypothesis [7], which claims that irony reduces the strength of a statement

People seem to like emoticons - at least the :p that we considered here

When the emoticon was present we observed:

- a higher level of arousal (EDA)
- a decrease in frowning
- a complementary increase in smiling

Emoticons can clearly elicit positive emotions

It also seems that they can increase enjoyment in communication [10]

:p

Irony appears to reduce the strength of a message, making it less polarised

Emoticons elicit positive emotions and heighten arousal, highlighting their utility in modulating the emotional impact of a message

Psychophysiological measures can be useful tools for examining on-line emotional responses to relatively subtle manipulations in written language

For more information, or a copy of this poster:
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[1] Grice, H. P. (1975). Logic and conversation. In P. Cole & J. L. Morgan (Eds.), *Syntax and Semantics 3: Speech acts* (pp. 41-58). New York: Academic Press.

[2] Giora, R. (2003). *On our mind: Salience, context and figurative language*. New York: Oxford University Press.

[3] Colston, H., & Keller, S. (1998). "You'll never believe this." Irony and hyperbole in expressing surprise. *Journal of Psycholinguistic Research*, 27, 499-513.

[4] Blasko, D. G., & Kazmerski, V. A. (2006). ERP Correlates of individual differences in the comprehension of nonliteral language. *Metaphor and Symbol*, 21, 267-284.

[5] Dews, S., Kaplan, J., & Winner, E. (1995). Why not say it directly? The social functions of irony. *Discourse Processes*, 19, 347-367.

[6] Clark, H., & Gerrig, R. (1984). On the pretense theory of irony. *Journal of Experimental Psychology: General*, 113, 121-126.

[7] Dews, S., & Winner, E. (1995). Muting the meaning: a social function of irony. *Metaphor and Symbolic Activity*, 10, 3-19.

[8] Colston, H. L. (1997). Salting a wound or sugaring a pill: The pragmatic functions of ironic criticisms. *Discourse Processes*, 23, 24-45.

[9] Dresner, E., & Herring, S. C. (2010). Functions of the nonverbal in CMC: Emoticons and illocutionary force. *Communication Theory*, 20, 249-268.

[10] Huang, A. H., Yen, D. C., & Zhang, X. (2008). Exploring the potential effects of emoticons. *Information & Management*, 45, 466-473.