IDK if You Really H8IT Unless You Spell it Out

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Text Messaging, Abbreviations, and Emotion

Text messaging continues to increase. In December 2008, more than 110 billion texts were sent, and that number increased to 152 billion in December 2009 (GAO, 2010).

Character limitations on texts have lead to greater use of abbreviations. Abbreviation has become more common in several forms of media (e.g., advertisements, TV shows).

Do abbreviations convey meaning?

The results of several studies suggest abbreviations do convey meaning.

* ERP - Familiar abbreviations (e.g., *FBI*) elicit an N400 (Laszlo & Federmeier, 2007)
* Associative Priming (Brysbaert, Speybroeck, & Vanderelst, 2009)
  e.g., faster lexical decisions to *ABS – BRAKES* than to *VCR – BRAKES*
* Stroop task (McWilliam, Schepman, & Rodway, 2009).
  e.g., slower color naming for **GR8** than for **ZOV**, **SLF**, and **$+@**

Emotion-laden linguistic stimuli do not always elicit emotions.

* Better recall of emotional than neutral words in L1; no effect in L2 (Anooshian & Hertel, 1994)
* Physiological responses to taboo words and reprimands (Harris, Ayçiçegi, & Berko Gleason, 2003)
  e.g., greater physiological response to "Go to your room!" in L1 than L2

These L2 results may depend on a later age of acquisition (AoA) or a lack of experience. Text-messaging abbreviations are typically learned later and perhaps also fail to elicit emotion.

Does ILU feel the same as I Love You?

Methods

Selection of Text-Messaging Abbreviations

44 participants rated 200 text-messaging abbreviations for familiarity and emotionality.

Familiarity

1 – don't know what it means	2 – seen it before, don't know what it means	3 – seen it before, know what it means	4 – I use it, know what it means

Emotionality

1 – very negative	2 – slightly negative	3 – not emotional	4 – slightly positive	5 – very positive

Selected stimuli were rated as familiar by at least 65% of participants and were classified as positive, negative or neutral if at least 60% of participants agreed on their classification.

Present Study: Participants and Design

Two experiments examined emotional responses to text-messaging abbreviations using an emotional Stroop task. In Experiment 1a, participants (N = 42, Mean Age = 24 years) reported stimulus color aloud; in Experiment 1b, participants (N = 48, Mean Age = 25 years) pressed a key to indicate stimulus color.

* **Experiment 1a participants – 90% text daily, 53% text hourly, 80% use abbreviations**
* **Experiment 1b participants – 94% text daily, 54% text hourly, 94% use abbreviations**

	Neutral	Positive	Negative
Abbreviation	PPL	JK	IH8IT
Word/Phrase	people	just kidding	I hate it

Fifty-one stimuli - 25 neutral, 13 negative, 13 positive – half presented as abbreviations, half as words/phrases; counterbalanced across participants. Stimuli appeared in red, green, yellow, or blue.

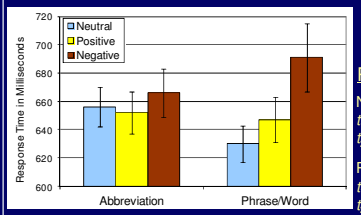
Results

Outliers and Errors

+ Response times faster than 200 ms or slower than three times the standard deviation for each participant were excluded from all analyses (1.5% of data for Experiment 1a; less than 1% of data for Experiment 1b).
+ Trials with participant errors were excluded from all RT analyses (microphone malfunctions were excluded from all analyses, 3.1% of trials in Experiment 1a).

Results most central to the research question are presented.

Experiment 1a RTs

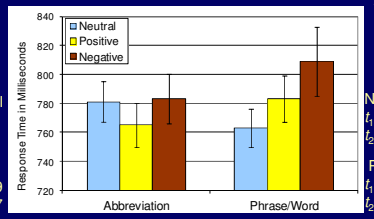


Abbreviation
No emotional Stroop effect

Phrase/Word
Negative - Neutral
$t_1(41)=3.7$, $p=.001$
$t_2(36)=3.6$, $p=.001$
Positive – Neutral
$t_1(41)=2.3$, $p=.029$
$t_2(36)=1.1$, $p=.267$

Emotion X Stim $F_1(2,40) = 4.9$, $p = .01$; $F_2(2,48) = 3.6$, $p = .04$

Experiment 1b RTs

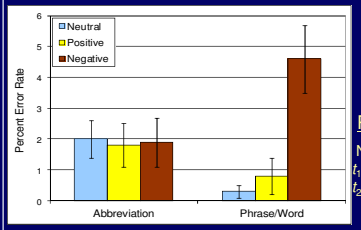


Abbreviation
No emotional Stroop effect

Phrase/Word
Negative - Neutral
$t_1(47)=3.8$, $p<.001$
$t_2(36)=2.3$, $p=.033$
Positive – Neutral
$t_1(47)=1.7$, $p=.101$
$t_2(36)=1.6$, $p=.117$

Emotion X Stim $F_1(2,46) = 3.4$, $p = .04$; $F_2(2,48) = 2.6$, $p = .08$

Experiment 1a Errors

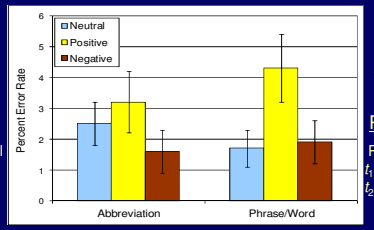


Abbreviation
No emotional Stroop effect

Phrase/Word
Negative - Neutral
$t_1(41)=3.5$, $p=.001$
$t_2(36)=2.9$, $p=.007$

Emotion X Stim $F_1(2,40) = 4.2$, $p = .03$; $F_2(2,48) = 2.9$, $p = .07$

Experiment 1b Errors



Abbreviation
No emotional Stroop effect

Phrase/Word
Positive - Neutral
$t_1(47)=2.0$, $p=.053$
$t_2(36)=1.9$, $p=.063$

Emotion X Stim $F_1(2,46) = 0.7$, $p = .48$; $F_2(2,48) = 0.6$, $p = .55$

No Measurable Effect of Text-Messaging Experience (Participant RTs and SE from both experiments)

	Text Frequency		Abbreviation Use		
Abbreviation	Hourly (*N*=45)	Less often (*N*=39)	Often (*N*=16)	Occasional (*N*=57)	Never (*N*=9)
Neutral	703 (17)	727 (29)	694 (24)	718 (22)	713 (41)
Positive	693 (15)	719 (31)	675 (24)	708 (23)	723 (37)
Negative	726 (20)	711 (34)	705 (26)	726 (27)	686 (40)

Conclusions

Text-Messaging Abbreviations Failed to Elicit Detectable Emotional Responses

+ Although emotion-laden words and phrases produced an emotional Stroop effect, their corresponding abbreviations did not.

+ Because abbreviations are learned later in life, they may function similarly to L2 words. If abbreviations are learned early in life or are encountered more often, they may come to elicit emotional responses.

Messages Containing Abbreviations May Not Convey Their Intended Meaning

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