

Authors and Disclosures

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From Medscape Medical News > Psychiatry Pregame Language Predicts Outcomes of Boxing Matches



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June 27, 2011 (New Orleans, Louisiana) — Outcomes of boxing matches can be predicted based on the boxer's use of language immediately before the bout, a linguistic analysis of precompetition interviews presented by Jason Warnick, PhD, a behavioral neuroscientist at Arkansas Tech University in Russelville, shows.

Dr. Warnick, a lifelong boxing fan, is conducting some of the first-ever scientific studies of the sport.

"Professional boxing is the oldest sport known to man, but there have been virtually no scientific studies of this. Combative sports in general have received little attention from the behavioral sciences, aside from a focus on traumatic brain injury," he told delegates attending the 16th Annual International 'Stress and Behavior' Neuroscience and Biopsychiatry Conference. The study's first author is Destiny Hughes.

Dr. Warnick has researched officiating bias, athlete qualifications, fighter safety, the influence of "home field advantage," and numerous other aspects of the sport.

His previous work has also shown that success of a boxing bout can be predicted based on success in previous bouts, success in the most recent bout, high number of previous victories, previous wins against the current opponent, and previous wins in a common location.

"These are suggestive of an increase in self-efficacy from experiencing success. We wanted to see what other potential psychological variables might predict victories," he said.

Hidden Meaning of Words

The researchers used the Language Inquiry and Word Count (LIWC) software (<http://www.liwc.net>), which classifies words into categories.

The method has been used to analyze complex psychological variables, such as personality characteristics, emotional response to events, social relationships, social dominance and hierarchy, group processes, and cognitive mechanisms.

"Using this software, other researchers have shown that the words we use possess psychometric properties. We used the LIWC to analyze prefight language use and determine if any common usage patterns exist. And we aimed to detect potential psychological variables associated with success," he said.

The study was based on interviews, press conference quotes, and press release statements given by professional boxers before boxing matches during a 21-month time span. Most text was taken from a major combative sports news Web site (www.fightnews.com), which links to most boxing societies.

Text for each fighter (approximately 100 quotes in total) was analyzed by the linguistic software. The outcome of each fighter's bouts was retrieved from an online database of professional boxing results.

Correlation analyses revealed that several patterns were associated with winning a bout: words conveying positive emotions ($r = 0.25$; $P < .05$), words focusing on health ($r = 0.23$; $P < .05$), and words focusing on work ($r = 0.28$; $P < .05$), Dr. Warnick reported.

'Combative' Words Not Predictive

Examples of phrases conveying positive emotions were "I'm coming back because I love the sport." (Israel Vazquez) and "This is a great arena and the idea of more than 50,000 spectators gives me additional motivation. After a break of 7 months I am really looking forward to stepping back into the ring." (Wladimir Klitschko).

Examples of health-focused phrases were "I feel really good physically and mentally" (Israel Vazquez) and "I feel great. I did everything I had to do in camp. I had great sparring, great strength and condition. Diet was good." (Darrell Madison).

Examples of a work focus phrases were "I'm ready and come fight night I'll just go in there and do my thing" (Brian Vitoria).

The following were associated with losing a boxing bout: increased grammatical nuances ($P < .05$), which included function words ($r = -0.28$), pronouns ($r = -0.23$), third-person plural words ($r = -0.31$), impersonal pronouns ($r = -0.34$), verbs ($r = -0.33$), auxiliary verbs ($r = -0.33$), and past tense ($r = -0.24$); words conveying social functions ($r = -0.24$; $P < .05$); and words conveying tentativeness ($r = -0.34$; $P < .01$).

An example of social function words was "I have the right team, the right managers and a good coach." (Nagy Aguilera), whereas tentativeness was conveyed by such phrases as "Experience plays an important part but so does youth. We'll see what comes out on top." (John Ruiz).

"Interestingly, combative words did not correlate either for wins or losses," said Dr. Warnick.

Starting Point

Although it is impossible to understand just what this all means, Dr. Warnick acknowledged, he believes that words conveying positive emotions may reflect both affect and immersion in the sport, and words suggestive of health and work might indicate dedication to these factors.

Words conveying social functions can reflect a focus "outside of oneself," and words conveying tentativeness suggest doubt. Increased grammatical nuance is harder to understand, he said.

"This investigation provides a starting point for future studies using more direct measures on combative sports participants," Dr. Warnick concluded.

Ludger Elling, PhD, a neuroscientist affiliated with the Institute of Biomagnetism in Muenster, Germany, said he was fascinated by the study's methods.

"This is an interesting field, the development of language in research. This reminds me of what happens with eyewitness reports, which has been studied in terms of form vs content. In conveying what he has seen, an eyewitness demonstrates certain characteristics, such as repetitiveness and grammar," he said.

Dr. Warnick and Dr. Elling have disclosed no relevant financial relationships.

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