

# Alcoholic men demonstrate a deficit in empathy and distorted view of irony

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Emotions are often implicit undertones to our communication interactions, and decoding them requires substantial social and cognitive abilities. Prior research has shown that chronic alcoholics often demonstrate impaired socio-cognitive and communicative abilities as well as emotion-related behaviors. Male alcoholics in particular suffer from dysfunctions in empathy. A study of the ability of chronic male alcoholics to recognize the emotional component of irony in relation to their empathic abilities has found a clear deficit.

Results will be published in the February 2013 issue of *Alcoholism: Clinical & Experimental Research* and are currently available at Early View.

"Chronic [alcohol](#) abuse seems to have effects on the perception and decoding of emotional expressions," said Simona Amenta, a post-doctoral researcher at the University of Milano-Bicocca, lecturer at the Catholic University of Milan, and corresponding author for the study. "It has been associated with higher frequencies of alexithymia, meaning deficits in emotion recognition and verbalization, leading to difficulties in distinguishing and comprehending people's emotional states, and then using emotional information to plan social and interactive acts. While alcoholic subjects seem to be able to correctly recognize emotions like joy and disgust, they show a tendency to overestimate anger and other negative emotions like fear and sadness."

A person's face is a complex stimulus which conveys different

emotional, motivational and social cues at the same time, explained Amenta. "The ability to recognize social and emotional cues from facial expressions is particularly impaired in alcoholic individuals," she said. "While [empathy](#) refers to insights into the emotional states of other people, empathic ability is a more complex psychological inference which involves observation and recognition of emotional cues, especially facial expressions and vocal prosody."

Alcohol's neurotoxic effects are particularly damaging to the prefrontal cortex, Amenta said, and neuropsychological studies have shown that the prefrontal cortex plays a basic role in humor processing. "As a communicative phenomenon, humor retains two fundamental components," she said. "The first is cognitive and deals with the comprehension of humorous material, the second is affective and it is related to jokes appreciation. Alcoholics show impairments for both the cognitive and affective components required in humor processing. Furthermore, male alcoholics, despite any particular dysfunctional behavior, have consistently reported showing worst performances in emotional and empathic behaviors. Finally, since [irony](#) is a complex linguistic and pragmatic phenomenon whose understanding requires a number of cognitive and meta-[cognitive abilities](#), and since these abilities are specifically weakened or impaired in alcoholism, we believed that irony might represent an optimal case to explore the relation of these competencies with language comprehension."

Amenta and her colleagues recruited 44 males – 22 male alcoholic patients recruited during their third week of detoxification from a Brussels clinic, and 22 of their male acquaintances or "controls" – to participate in a story comprehension task. All participants were asked to read stories with either an ironic or a non-ironic ending, and then fill in a questionnaire about communicative intentions and the emotional states of the stories' characters. Furthermore, comprehension of the ironic meaning was also assessed through a self-reported questionnaire, and

then related to an Empathy Quotient (EQ) that had been measured during a pre-experimental phase.

"Our work's main findings are twofold," said Amenta. "First, we gained behavioral evidence concerning the role of emotions in language understanding. We were able to observe that a weakened emotional and empathic ability indeed affected the way linguistic contents were understood by the alcoholics. A second result, which we believe will be of more interest for clinicians, concerns alcoholics' impaired ability in understanding ironic stances. As we argue in the paper, understanding irony requires the ability to engage complex inferential processes that are mainly based on meta-representative thoughts. Of course, irony is just an example of the wide number of implicit forms of communication we use every day that involve complex inferential reasoning. Thus, our results seem to indicate that alcoholics might show a general impairment in understanding complex forms of communication."

More specifically, the alcoholics demonstrated: a deficit of empathic functions; a specific impairment of the "social skills" component of empathy; a disturbed comprehension of irony; difficulties in recognizing the emotional dimension in communication; difficulties in identifying speakers' emotional states and intentions; and an overestimation of positive emotions and a misunderstanding of the negative connotation of ironic situations.

"The most striking example concerns the different pattern of emotions that alcoholic subjects recognized in ironic stances," said Amenta. "Our study used irony to criticize. Our control subjects mostly indicated that ironic comments expressed a negative attitude and negative emotions. On the contrary, alcoholic subjects judged ironic comments as expressing amusement and generally positive emotions. This result confirms that alcoholic subjects tend to underestimate negative emotions; it also suggests that the same situation might be read in a

totally different way by an alcoholic individual and another person."

Amenta said that the field of alcohol studies has not closely examined emotions and language. "While a lot has been said on emotions recognition in faces, body postures, and gestures, only a few studies have explored the recognition of emotion in verbal language. We believe this topic should be investigated more, especially since problems in social interaction are considered a relevant outcome, but also one possible cause, of alcohol dependence."

Provided by Alcoholism: Clinical & Experimental Research

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