Speaker emotion affects lexical and syntactic ambiguity avoidance in speech production.

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There is growing evidence that positive emotions can diminish communicative effectiveness: Happy speakers are less polite and indirect in their request formulation (Forgas, 1999), make more egocentric inferences when interpreting ambiguous statements (Converse, Lin, Keysar & Epley, 2008) and produce more prosodic cues that are misaligned with syntactic structure (Kempe, Schaeffler & Thoresen, 2010). Using mood induction, the present study is the first to investigate directly whether emotional valence has an effect on informativeness in speech production by comparing happy and sad speakers in their lexical (Experiment 1) or syntactic (Experiment 2) ambiguity avoidance. In both experiments, participants were randomly assigned to either a happy condition (watching the ‘Bambi on ice’- cartoon scene from Walt Disney’s movie Bambi accompanied by Mozart’s Rondo in G), or a sad condition (watching the ‘Death of Simba’s father’ – cartoon scene from Walt Disney’s movie The Lion King accompanied by Barber’s Adagio for Strings).

Experiment 1 modified a methodology introduced by Ferreira, Sleve & Rogers (2005) to examine lexical ambiguity avoidance: After mood induction, 48 participants (36 women) were asked to describe a series of four objects to a hypothetical addressee in a pre-specified order. In the critical trials, one homonym, e.g. a flying mammal, bat, appeared in third position followed by a second homonym, e.g. a baseball bat. Manipulation checks, administered after completion of the speech task, showed that the intended mood reliably persisted throughout the task in women but not in men who were therefore excluded from further analyses. The failure of the mood induction in the men may have been due to a combination of a demanding task with lesser susceptibility to mood induction of men in general. For the women, the results showed that while happy and sad speakers were equally likely to produce bare homonyms, e.g. bat, in the first instance (t(34)=0.3, n.s.), sad speakers were more likely to repair the temporary ambiguity by modifying the subsequent homonym (t(34)=2.5, p<.05), e.g. to say baseball bat (figure 1).

In Experiment 2, 48 participants (24 women) underwent mood induction, which this time reliably induced happy vs. sad mood in men and women. Participants were then shown arrays of objects and asked to formulate instructions for moving these objects around in space. In the critical trials, the arrays contained two exemplars of the same object so that identifying one of these objects to a potential listener required a relative clause modification as in Put the ball that’s under the boot under the barn for an array with two balls or Put the ball under the boot that’s under the barn for an array with two boots. Happy speakers omitted the modifying relative clause altogether 44% of times compared to only 22% omissions in sad speakers (t(46) = 2.3, p < .05). Thus, happy speakers were more likely to produce Put the ball under the boot when two balls were present in the array thereby rendering the whole expression ambiguous.
Figure 1: Percent of bare homophones produced by happy and sad speakers when naming a series of pictures in the control trials (one homophone in the array of pictures) and in the critical trials (two homophones in the array of pictures).

These results provide converging evidence that sad speakers are more likely to avoid lexical and syntactic ambiguity. One possible explanation for this finding, to be investigated in future research, is that because negative mood is associated with more systematic and deliberate information processing sad speakers are perhaps more likely to allocate more cognitive resources to effective monitoring of how well their speech is aligned with the perspective of the interlocutor. In general, the preliminary findings presented here fit well with a body of research suggesting that negative emotional valence can to some extent benefit communication.

References: