When slow speech sounds fast: How the speech rate of one talker influences perception of another talker

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Listeners are continuously exposed to a broad range of speech rates. Earlier work has shown that listeners perceive phonetic category boundaries relative to contextual speech rate. This process of rate-dependent speech perception has been suggested to occur across talker changes, with the speech rate of talker A influencing perception of talker B. This study tested whether a 'global' speech rate calculated over multiple talkers and over a longer period of time affected perception of the temporal Dutch vowel contrast /ɑ/-/a:/. First, Experiment 1 demonstrated that listeners more often reported hearing long /a:/ in fast contexts than in 'neutral rate' contexts, replicating earlier findings. Then, in Experiment 2, one participant group was exposed to 'neutral' speech from talker A intermixed with slow speech from talker B. Another group listened to the same 'neutral' speech from talker A, but to fast speech from talker B. Between-group comparison in the 'neutral' condition revealed that Group 1 reported more long /a:/ than Group 2, indicating that A's 'neutral' speech sounded faster when B was slower. Finally, Experiment 3 tested whether talking at slow or fast rates *oneself* elicits the same 'global' rate effects. However, no evidence was found that self-produced speech modulated perception of talker A. This study corroborates the idea that 'global' rate-dependent effects occur across talkers, but are insensitive to one's own speech rate. Results are interpreted in light of the general auditory mechanisms thought to underlie rate normalization, with implications for our understanding of dialogue.