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Arbogast, Mason & Kidd, 2005;  
Freyman, Balakrishnan & Helfer, 2001; Freyman,  
Helfer, McCall & Clifton, 1999; Li, Daneman, Qi &  
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Li, Qi, He, A'

Schneider, 2000

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Cherry 1953

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Helfer & Freyman,  
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2005; Rudmann et al., 2003

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Kidd 2005

Brungart

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## Effects of Perceptual Cues on Releasing Speech From Informational Masking

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**Abstract:** In a noisy “cocktail-party” environment, target speech is masked by different sounds. The masking includes at least two different components: energetic masking and informational masking. Energetic masking occurs when peripheral neural activities elicited by the target signal are overwhelmed by those elicited by the mask signal, leading to a substantially degraded neural representation of the target signal. Informational masking occurs when the target and the masker are similar in some dimensions, such as when they are both speech signals. The similarity leads to a competition for the limited central cognitive processing resources between the target and the masker signal. Thus, the amount of informational masking is not only affected by the bottom-up processes but also modulated by the top-down processes. The effects, which occur at the perceptual level, of the perceived spatial separation, the visual cues such as lip reading and speech-synchronized light flash, and the familiarity with the characteristics of the target signal on releasing target speech from informational masking are summarized. Future research will focus on the interactive effects among these cues and the perceptual processing mechanisms of using different cues to release speech from informational masking.

**Key words:** “cocktail-party” problem; perceptual cues; selective attention; energetic masking; informational masking