

Hearing Someone Laugh and Seeing Someone Yawn: Modality-Specific Contagion of Laughter and Yawning in the Absence of Others

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Laughter and yawning can both occur spontaneously and are highly contagious forms of social behavior. When occurring contagiously, laughter and yawning are usually confounded with a social situation and it is difficult to determine to which degree the social situation or stimulus itself contribute to its contagion. While contagious yawning can be reliably elicited in lab when no other individuals are present, such studies are more sparse for laughter. Moreover, laughter and yawning are multimodal stimuli with both an auditory and a visual component: laughter is primarily characterized as a stereotyped vocalization whereas yawning is a predominantly visual signal and it is not known to which degree the visual and auditory modalities affect the contagion of laughter and yawning. We investigated how these two sensory modalities contribute to the contagion of laughter and yawning under controlled laboratory conditions in the absence of a social situation that might confound their contagion.

Subjects were presented with naturally produced laughter and yawning in three sensory modalities (audio, visual, audio-visual), and we recorded their reaction to these stimuli. Contagious responses differed for laughter and yawning: overall, laughter elicited more contagious responses than yawning, albeit mostly smiling rather than overt laughter. While the audio-visual condition elicited most contagious responses overall, laughter was more contagious in the auditory modality, and yawning was more contagious in the visual modality. Furthermore, laughter became decreasingly contagious over time, while yawning remained steadily contagious. We discuss these results based on the ontogenetic and phylogenetic trajectories of laughter and yawning.

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