Title: Facilitation of fear learning by prior and subsequent fear conditioning

Authors: Jessica Lee, Amanda S. Russo, Ryan G. Parsons

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Title Page

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Short Title: Facilitation of fear learning

Authors: Jessica Lee, Amanda S. Russo, and Ryan G. Parsons

Author Affiliations: Stony Brook University, Department of Psychology, 100 Nicolls Rd., Stony Brook, NY, 11794

Corresponding Author: Ryan G. Parsons, Department of Psychology, 100 Nicolls Rd., Stony Brook, NY, 11794. Email: ryan.parsons@stonybrook.edu

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Abstract

Classical fear conditioning is perhaps the premier model system used to study the neurobiological basis of memory formation. Prior work has resulted in a good understanding of both the molecular mechanisms and neural circuits supporting this form of learning. However, much of what is known about these mechanisms comes from studies in which fear memory is acquired using a single, isolated training session. Given that we cannot divorce the acquisition of new information from the backdrop on which it occurs, studies are needed to determine how the acquisition of fear memory is affected by other learning events. Here, we used rats to describe the time course by which auditory fear conditioning can facilitate learning to a different fear learning event, which alone is insufficient to support long-term fear memory. First, we replicated