

Abstract

Work from our lab has shown that 2 weeks of voluntary exercise in mice reduces anxiety across several behavioral measures; however work from other labs suggests that voluntary exercise may sometimes increase anxiety. Examination of these discrepant studies reveals that in cases where voluntary exercise increases anxiety, mice are often single housed. As single housing is a significant stressor it is possible that whether exercise increases or decreases anxiety may depend on the animal's initial level of stress. To examine this, mice will be stressed or not stressed prior to the introduction of running wheels. Running will be monitored over two weeks at which time anxiety will be measured using the acoustic startle response. The hypothesis to be tested is that compared to sedentary mice, stressed mice will show an increase in anxiety following voluntary exercise whereas non-stressed mice will show a decrease in anxiety. This study aims to discover whether stress at the onset of exercise will influence the consequences of exercise.