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The influence of social isolation on alcohol intake in *Drosophila melanogaster*

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Social species, like *Drosophila melanogaster* and *Homo sapiens*, fare poorly when isolated, and research indicates that perceived social isolation can bring about a lot health problems. Perceived social isolation is used when describing loneliness in species because it is an assumption that the species is lonely when they are socially isolated from conspecifics. Flies have the same behavioral traits as humans when it comes to alcohol and exhibit complex addiction-like behaviors that can have long-lasting effects on behavior just like humans (Scholz, 2008). Using the aspect of social isolation and knowing that flies show similar addictive-like behaviors as humans, can help identify if social isolation plays a part in alcohol addictions. Flies outbred from a large recombinant inbred population, 50 female flies and 50 male flies were chosen. The flies were then split up into two different groups, the control group, and the experimental group. The experimental group was put into 2 weeks of isolation while the control group will have social interaction for 2 weeks, before the experiment took place. After the 2 weeks, the Capillary Feeder (CAFE) Assay will be used to track food for each fly for 8 hours one time a week, giving the fly two liquid food options, the control food which consists of sucrose and yeast extract, and the experimental food that adds in the ethanol. Based on the results of other research studies, we expect that isolated fruit flies will consume more alcohol-containing food than fruit flies who were not isolated. This experiment is still in progress, though we expect our results will back up other research studies that have linked isolation and alcohol consumption. We want to see if isolation causes an alcohol addiction or if having an alcohol addiction causes isolation and this experiment can provide an answer to that.