



**CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY**

Name(s) Eli Erlick	Project Number S1711
Project Title The Effects of Citalopram on Danio rerio	
Abstract Objectives/Goals The objective of this experiment was to determine if exposing Danio rerio (zebrafish) to citalopram, a contaminant of many waterways around the world, would decrease aggressive behavior in the fish. Methods/Materials 20 zebrafish were obtained and kept in a 26.7 C aquarium. Two aquariums were set up, one with regular water and one with 10 micrograms per liter of citalopram. Five fish were placed in each and left for three hours. They were then placed into a different tank and their behavior was recorded. This was repeated five times per trial for three trials. Results Fish exposed to citalopram had 47% decreased rates of aggression. This is evidence that citalopram causes a significant reduction in aggression at concentrations found in our waterways. Conclusions/Discussion The potential for pharmaceutical medications that reach our waterways to harm our ecosystems is poorly studied and could have a large effect on our fish populations. The concern regarding the effects of pharmaceuticals on aquatic organisms is supported by this study, which indicates that citalopram may significantly decrease aggression in Danio rerio.	
Summary Statement This experiment was created to determine if exposing Danio rerio to citalopram (an antidepressant) would decrease aggressive behavior in the fish and found that the aggression significantly decreases in the presence of the drug.	
Help Received Dr. Carla Longchamp helped obtain citalopram pills; father assisted in blinding study	