



**CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY**

Name(s) Daniel J. Concho	Project Number S1303
Project Title Effects of Rhythm of Reproductive Rates of Saccharomyces cerevisiae	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals This research tested the effects of rhythm on reproductive rates of <i>Saccharomyces cerevisiae</i> (yeast cells). It was hypothesized that when fungi cells, <i>Saccharomyces cerevisiae</i>, are exposed to Native and Modern drum rhythms, they will respond with a change in their reproduction and rate of reproduction. Similar to previous study, the reproduction and reproduction rate will react with improved rates.</p> <p>Methods/Materials Native American and Modern drumming were used to test yeast cells reproduction and reproduction rates. Yeast cells were observed multiplying under normal conditions. A blind study was used to conduct the tests. First, each student groups were supplied with yeast solution and water. One student kept control of the temperature while another observed the changes in number of yeast cells under microscope. This procedure was repeated for both types of music along with the control. Data was recorded. A statistical analysis was made.</p> <p>Results Results were taken from a series of tests done over a 4-day period. From raw data, the average of all testing groups, for each minute, in the Control, Modern and Native groups were graphed. From the graphs, comparisons were made of the before and after results and a statistical t-test was created between each test group. The budding of yeast cells, when exposed to Modern rhythm, resulted in the increase of the reproduction and reproduction rate. There was a significant decrease in the reproduction and reproduction rates of the budding of yeast cells when exposed to Native drumming. Although the rhythm was not beneficial to reproduction responses, the budding process of the yeast cells did slow down.</p> <p>Conclusions/Discussion The exposure of specific drum rhythms does cause changes in the reproduction and reproduction rate of <i>Saccharomyces Cerevisiae</i>. As similar to previous study, the modern group resulted with the most significant results, when comparing numbers. There was a significant increase in the reproduction/reproduction rate of yeast cells when exposed to modern drumming. When exposed to Native drumming, the yeast cells resulted in a significant drop (lower than variables of control). This contradicts previous study in that it was not beneficial towards the reproduction and reproduction rate. It is similar in that the process was slowed down, just as functions of the autonomic nervous system of a human test subject.</p>	
Summary Statement This project tested the effects of rhythm (Modern and Native drumming) on the reproductive rates of <i>Saccharomyces cerevisiae</i> (yeast cells).	
Help Received Mentor gave advice.	