



**CALIFORNIA STATE SCIENCE FAIR  
2007 PROJECT SUMMARY**

<b>Name(s)</b> <b>Oren R. Lee</b>	<b>Project Number</b> <b>J1115</b>
<b>Project Title</b> <b>Are Rats Smart Eaters?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> Rats are known to display a behavior known as socially transmitted food preference in which observer rats display a similar food preference to demonstrator rats. The hypothesis of this experiment is that a rat's socially transmitted food preference will be demonstrated in the rat's ability to obtain that food in a dual lever Skinner box.</p> <p><b>Methods/Materials</b> A dual lever Skinner box was built providing identical levers offering two different food sources from two different shoots. Ten rats were used to determine their socially transmitted food preference of Cheerios over alfalfa by placing each rat in a cage with the two food options for 10 minutes and counting the food pellets eaten during that time. Each test was repeated seven times for each rat. After each rat was trained to use the Skinner box, it was tested in the dual lever box for ten, 10-minute sessions counting the number of pieces eaten from each of the two shoots.</p> <p><b>Results</b> The rats preferred Cheerios over alfalfa 98.36% of the time when allowed to eat freely. In the dual lever Skinner box, the rats pressed the Cheerios lever an average of 23.81 times per testing session, compared to 1.92 times for alfalfa. An ability to press the lever for Cheerios over alfalfa was seen 92.54% of the time.</p> <p><b>Conclusions/Discussion</b> The rats clearly demonstrated a food preference and were able to translate this preference into performance in a dual lever Skinner box in order to press the lever that produced their favorite food. The small difference of 98.36% food preference in a cage versus 92.54% ability to press the favorite lever in the Skinner box demonstrates the rat's quick learning and strong desire to obtain the food they like. This study could be strengthened by adding more rats, more food variables, and seeing if the rats would still prefer one lever over the other if the food source was alternated from the two shoots</p>	
<b>Summary Statement</b> 10 rats were tested to see if their socially transmitted food preference would be demonstrated in the rat's ability to obtain that food in a dual lever skinner box.	
<b>Help Received</b> Father helped build skinner box. Mother helped with graphs and board.	