



**CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY**

Name(s) James T. Bamford	Project Number J0403
Project Title Perfecting Smile Detecting	
Abstract Objectives/Goals The purpose of this project is to explore variables possibly affecting a person's ability to detect "Duchenne" and "non-Duchenne" smiles. In particular, the project examines whether age and gender affect a person's ability to accurately distinguish between genuine and fake smiles. Additionally, the project seeks to determine whether people socializing more through texting and computer use are generally less able to correctly detect smile types compared to people socializing more face-to-face. Methods/Materials Forty subjects completed a survey developed by the student researcher. The survey included questions about age, gender, and social choices for interacting with others. Next, subjects watched 20 people smile in an online "Spot The Fake Smile Test" developed by British Broadcasting Corporation's Science division. Subjects then chose whether a smile was "genuine" or "fake." Results were recorded, compiled, and graphed. Statistical analysis was used to determine whether gender, age, and social choices make a significant difference in a person's ability to distinguish between smile types. Conclusions/Discussion Older people are able to detect Duchenne and non-Duchenne smiles better than younger people. Similarly, people who spend more time socializing with other people face-to-face are better at accurately detecting smile types than people who spend more time socializing through texting or computer use. Finally, it is not clear from the data collected whether females are better than males at detecting smile differences, because the higher number of correct answers for females was not statistically significant given the data collected.	
Summary Statement This project examines whether age, gender, or the amount a person socializes using texting or computers affects a person's ability to accurately detect genuine and fake smiles.	
Help Received Student researcher received help to (1) purchase materials (mom), (2) learn how to graph in PowerPoint (aunt), and (3) understand standard deviation and statistical significance (6th grade math teacher).	