PROGRAM LOGIC MODEL for PLI Leadership Project

SITUATION:

Currently, women hold less than 25% of STEM-related careers in the United States. Where does this aversion to Math and Science start? I want to explore the attitudes of adolescents toward Math, and to see if a student's learning situation affects his/her feelings toward math. I also am interested in comparing middle school students to high school students. My hypothesis is that females will show increasingly negative/indifferent attitudes toward math as they move from middle school to high school. I also suspect that schools whose Math programs are more collaborative and constructivist will produce data that varies less between males and females than at schools whose math classes feature more individual work and direct instruction.

PRIORITIES:

To look for trends in the data about girls' attitudes toward math, to see whether the prevalent teaching style of the school (direct instruction with individual tasks and practice problems, versus cooperative group work with constructivist teaching strategies and/or project-based learning) affects students' attitudes toward math, while paying attention to differences between the genders.

INPUTS	OUTPUTS		OUTCOMES		
	Activities	Participants	Short-term	Medium-term	Long-term
Researching curricula at each school, researching gender inequalities and root causes, researching different learning modalities and theory	Contact middle schools and high schools to gain background information Observing classes to see teaching styles and classroom configurations Administering a survey to students at several schools about their attitudes toward math	8th and 9th grade teachers at Belmont and Cortines High Schools, and Berendo and Burbank Middle Schools, coordinators at each site	Teachers and coordinators will see results of students' surveys and compare their school to others who participated. The team will discuss trends and determine whether a certain teaching style yields better attitudes toward math among female students.	The survey can be refined and distributed more widely, to test whether certain trends continue to arise.	A more comprehensive survey will inform the way that secondary schools teach math. More emphasis will be placed on gender equity in Math, and eventually, female students will pursue Math in higher education and eventually enter STEM careers in greater numbers.

ASSUMPTIONS	EXTERNAL FACTORS
1. Students see being "feminine" as not being too assertive or smart. 2. Teachers see females as better students (better at taking notes, being organized, etc), but identify males as "really bright" and "naturally good at math" more frequently than females.	1. Parents and teachers reinforce gender stereotypes. 2. Limited time for sharing best practices and collaboration among schools