

Teen Pregnancy

New Mexico
Supercomputing Challenge
Final Report
March 5, 2009

Team #3
Aguilar High School

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Executive Summary

Introduction

Teen pregnancy is an issue that has affected not only our school, but schools across the nation. Although the teen birth rate is slowly falling there still remains an estimated one million teen pregnancies nationwide. Babies born to teenage mothers are more likely to have health problems, suffer from social problems, and do poorly in school. Teen mothers will achieve a lower level of schooling with only seventy percent completing high school, or earning a GED. (Sams, 2008)

In our project we conducted a survey in order to gather our data. The survey addressed questions in regards to teens feelings towards teen pregnancy, their birth control tendencies, and the affect friends and media have on them.

A StarLogo model was used to represent teens that have been grouped in the three categories. Each group exhibits a different reaction towards a pregnancy in it has contact with. The model should show results as to which group would be more likely to produce a pregnancy.

Problem Statement

Teen pregnancy is an important issue in today's society. It is interrelated with other areas of concern for contemporary teens. Factors such as media influence, drug and alcohol use and promiscuity also play a crucial role in whether or not a teen pregnancy will occur. Intentional pregnancies are another part of the equation.

We decided to make this our project because teen pregnancy is an issue at our school. Each year one to two pregnancies occur in a population of approximately fifty students in 7th-12th grade. We feel this number is too high. As we began doing our research we discovered that young women frequently lose their virginity when they have been drinking. Roughly twenty percent of alcohol consumed in the United States is done by young people ages twelve through twenty. When the drinking gets out of hand, inhibitions are lowered and anything can happen such as teen pregnancy.

Objective

We wanted to create a model to show how certain "cliques" are influenced and how they influence others. When a pregnant agent comes in contact with another agent belonging to their clique, they will either be influenced and become pregnant or not be influenced and not become pregnant.

Report

Our project started by researching teen pregnancy. We found that there was a lot of information in regards the contributing factors. We needed real data to help us create our model so we decided to conduct a survey in our school asking other teens how they feel about teen pregnancy.

In our survey, we asked students what they considered themselves to be. The three categories we found that the students grouped themselves in our school into were Emo/Nerd, Jocks, and Others. We discovered which teens were more likely to become pregnant, use contraceptives, be influenced by media, and how many students have been pregnant or have contributed to a pregnancy.

For our project, we decided StarLogo TNG would be the best program to use to represent our model. Our model symbolizes the information we gathered. It includes how many students belong to each group and how teen pregnancy will affect them. We used colors and shapes such as white, blue, red, circles, and squares to represent the teens in the model. The colors are the groups or "cliques". Different kinds of groups that we used are Jocks, Emos and Nerds, and Others. The squares are the teens that are not pregnant while the circles are the pregnant teens or the "infected" teens. After we incorporated the data into our model from the surveys, we were able to use percentages to determine how many teens would fall into each category. The numbers of teens were more accurate after we used the data from the surveys instead of random numbers. Although the numbers are not random, the teens do walk around randomly. If a "square" (not pregnant) teen comes in contact with a "circle" (pregnant) teen in the same color (clique) group, they may be influenced to become pregnant. A pregnant agent will only stay pregnant for a certain amount of time before they turn back into a square then they may be effected again.

Results and conclusion of study

We did not create our model to solve a mathematical problem; however, we feel that we have modeled our problem. The model is an accurate representation of the student community in our school. The students infect each other with a pregnancy within their social groups.

Final Report Data

Total Number of Surveys: 46

Boys: 20

Girls: 26

What would you consider yourself?

Emo/Nerd	Jock	Other
5 /11%	6 /13%	35 /76%

Would you consider teen pregnancy a positive or negative experience?

	Emo/Nerd	Jock	Other
Positive	4 /80%	3 /50%	9 /27%
Negative	1 /20%	3 /50%	24 /73%

*Note: In the other category, two surveys were invalidated.

If one of your friends had a positive experience, with teen pregnancy, would that influence you to become pregnant?

	Emo/Nerd	Jock	Other
Yes	4 /80%	2 /33%	5 /15%
No	1 /20%	4 /67%	29 /85%

*Note: In the other category, one survey was invalidated.

If you are currently sexually active, do you regularly use any form of birth control?

	Emo/Nerd	Jock	Other
Yes	2 /40%	4 /67%	19 /54%
No	3 /60%	2 /33%	16 /46%

Have you ever been pregnant (this includes miscarriages and abortions), or caused a pregnancy?

	Emo/Nerd	Jock	Other
Yes	2 /40%	1 /17%	1 /3%
No	3 /60%	5 /83%	34 /97%

When you became pregnant were you under the influence of drugs or alcohol?

	Emo/Nerd	Jock	Other
Yes	2 /40%	0 /0%	1 /3%
No	3 /60%	5 /100%	34 /97%

*Note: In the jock category one survey was invalidated.

Does media or celebrities influence your views on teen pregnancy?

	Emo/Nerd	Jocks	Other
Yes	2 /40%	2 /33%	10 /29%
No	3 /60%	4 /67%	25 /71%

Have you ever thought about becoming pregnant?

	Emo/Nerd	Jocks	Other
Yes	0 /0%	1 /50%	7 /30%
No	1 /100%	1 /50%	16 /70%

*Note: Girls Only

Acknowledgements: John Paul Gonzales and Talaya White