

# **Missouri Youth Attitudes towards Science and Technology**

## **Comparison of 4-H and Non-4-H participants**

## METHODOLOGY:

Missouri youth in grades 6-10 were surveyed between March and July 2007 at 16 sites throughout the state. The sample of 214 youth included 126 4-H participants and 88 non-4-H participants. A researcher-designed, 20-item questionnaire was administered to the youth in conjunction with the 4-H Study of Positive Youth Development. The questions were developed from a variety of sources, measuring factors have been shown to be related to students' attitudes toward science (George, 2000). These include:

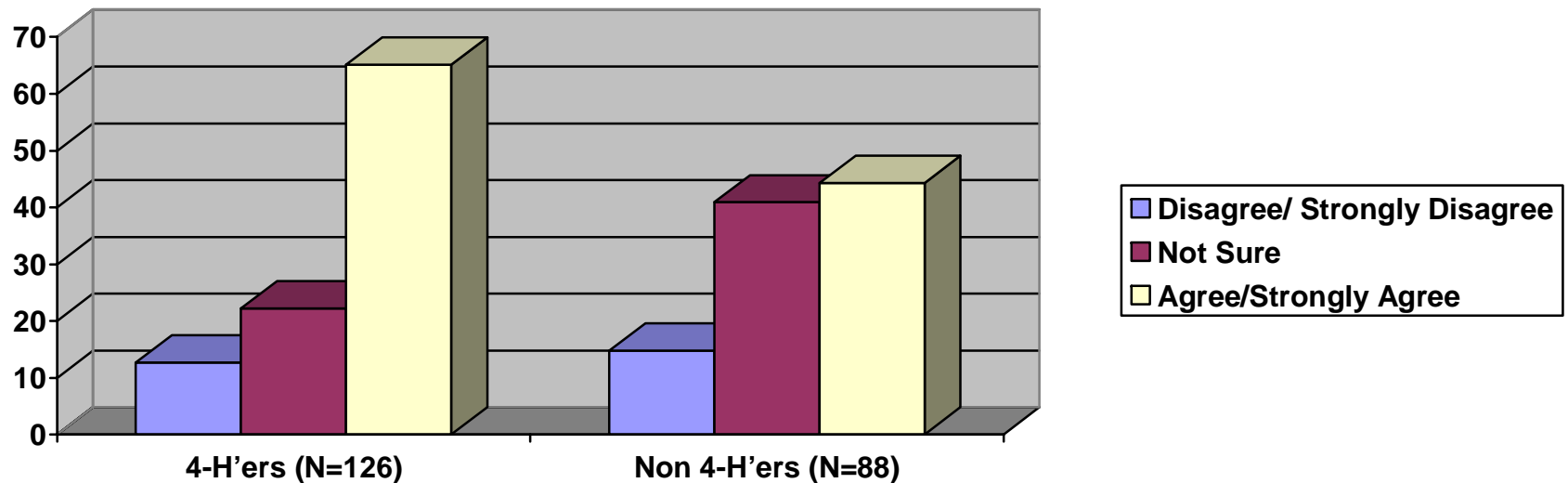
- Favorable attitudes toward science
- Favorable attitudes toward scientific careers
- Science self-concept
- Science activities
- Parent push or parent interest in science
- Science anxiety
- Peer science or peer interest in science

## FINDINGS:

There were significant differences between 4-H'ers and non-4-H'ers on 3 of the 20 items.

**Science will be useful in my future.** (p<.006)

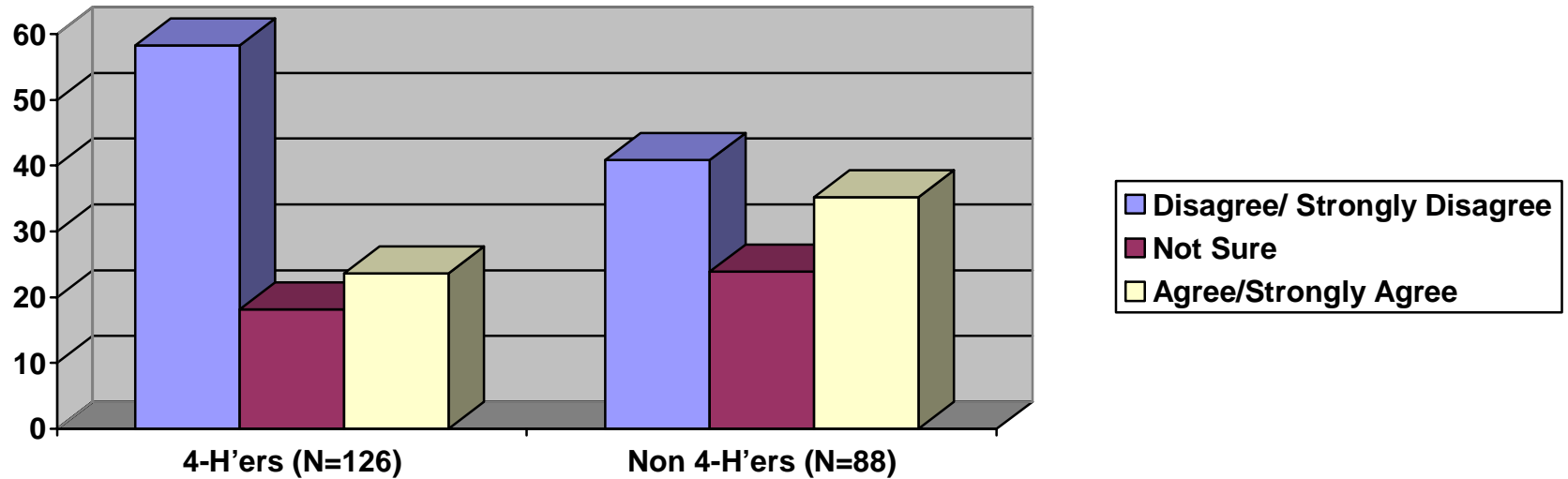
	4-H'ers (N=126)	Non 4-H'ers (N=88)
Disagree/ Strongly Disagree	12.7	14.8
Not Sure	22.2	40.9
Agree/Strongly Agree	65.1	44.3



**It is not important for me to know about science in my daily life.**

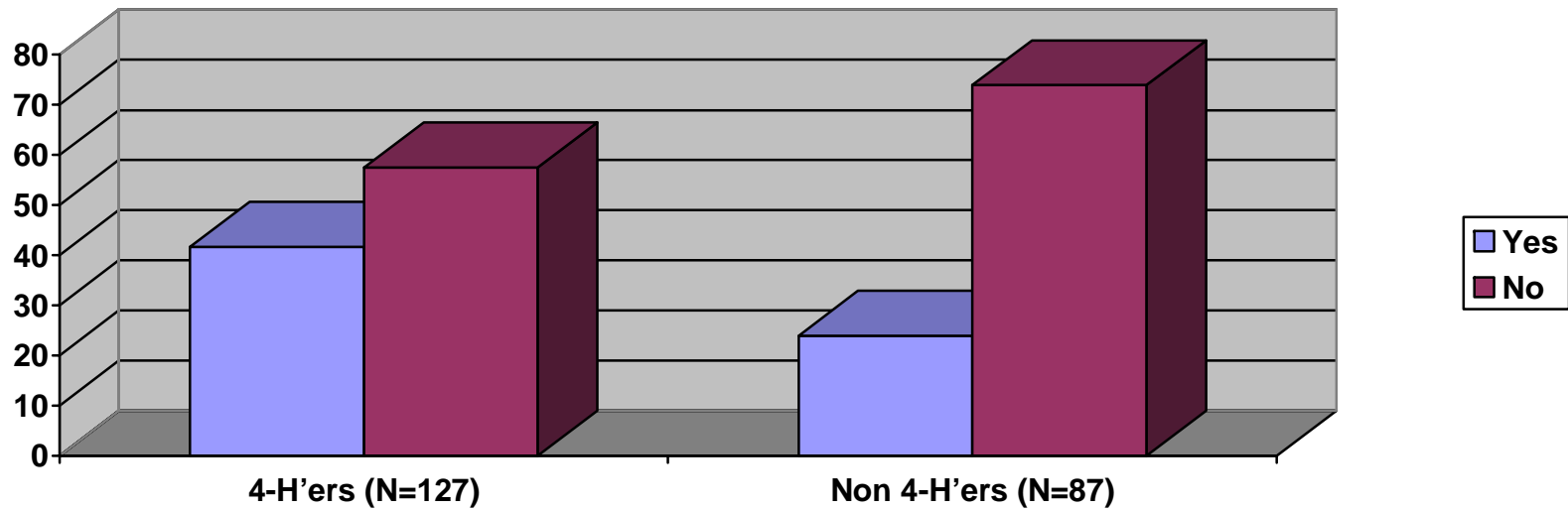
( $p < .041$ )

	<b>4-H'ers (N=126)</b>	<b>Non 4-H'ers (N=88)</b>
<b>Disagree/ Strongly Disagree</b>	58.3	40.9
<b>Not Sure</b>	18.1	23.9
<b>Agree/Strongly Agree</b>	23.6	35.2



**Do you spend your out-of-school time learning about or working with science or technology? (p<.020)**

	<b>4-H'ers (N=127)</b>	<b>Non 4-H'ers (N=87)</b>
<b>Yes</b>	41.7	23.9
<b>No</b>	57.5	73.9



# If yes, what kinds of science and technology activities do you like to do outside of school?

## 4-H Respondents – Open-ended responses:

4-H

4-H Computer project

Biology, Herbiology

Build stuff

Circuit bending, internet, programming

Computer

Computer engineering

Computer stuff (anything really)

Computer, radios

Computers

Computers

Computers

Computers

Computers- How to work them

Computers, music (mp3s)

Electronics

Entering farm records into the computer and many other things on the computer.

Experiments

Farming

Go to science club at ND

Help out at local vet's office every now and then

I am on the computer a lot for my classes

I go to the internet and look up things

I like being outside and I like to be in the great outdoors exploring stuff like plants and animals

I like figuring out how things work and I like building things with electronics

I mess around on the internet

I use technology to make life easier

I'm on the computer a lot after school

I'm semi-active with the Science Club at school.

Internet

Internet

iPod, computer, gameboy

Look at stars

Look for frogs and turtles

Making airplanes, making volcanos, watching things blow up

Making things blow up: Chemical Experiments

Play on computers

Playing on the computer

Robotics

Science Club, Tech-no classes (make a webpage)

Science projects and garden with my dad

Sciences projects

Shoot off model rockets, exploring our brook outside

Study Animals

Tech Team

TV, Messenger, XBox

Veterinary clinic

We shot rockets, went to the Pepsi plant

Welding, fire fighting

Work on computer

Work on the computer for projects and homework. Learn about aviation in Royal Rangers

Work with computers to do homework and learn about the inside of the animal body

**Non-4-H Respondents – open-ended responses:**

Anything

Car, motorcycles, other things

Chemical potential energy

Doing little projects with electronics!!!!!!

Don't know

Exploring

Farming

I dont know

I like to experiment with chemicals and reactants within chemicals, as well as make analysis's of the data I've come up with

I like to explore the internet and spend time exploring outside.

Look at computers and their workings

Mess with computers, cameras

Stuff about rock and the earth

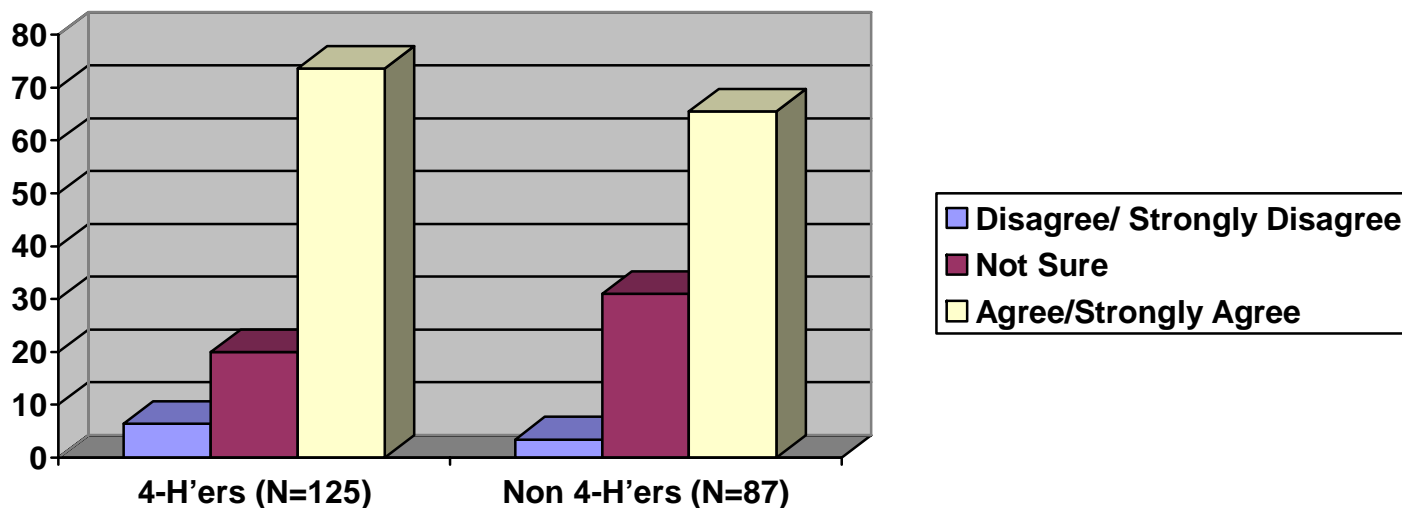
Video games/science fair projects

Work with electricity and magnatism; Nature and improving it

## Four items approached significance:

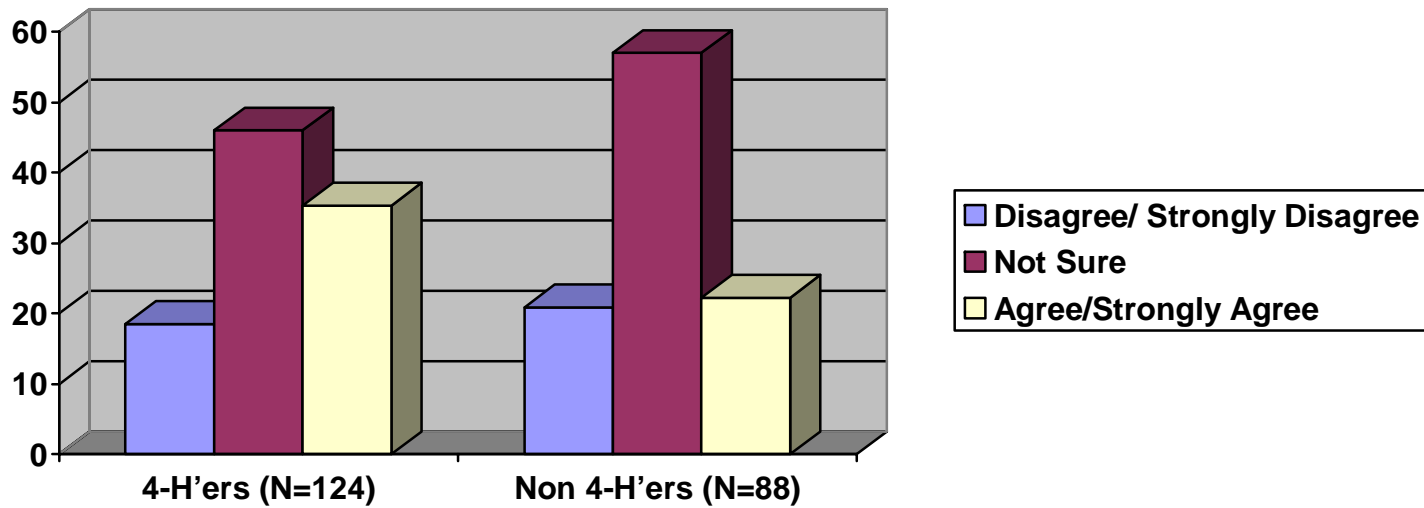
**I like to learn about and explore new ideas.** (p<.143)

	4-H'ers (N=125)	Non 4-H'ers (N=87)
Disagree/ Strongly Disagree	6.4	3.4
Not Sure	20.0	31.0
Agree/Strongly Agree	73.6	65.5



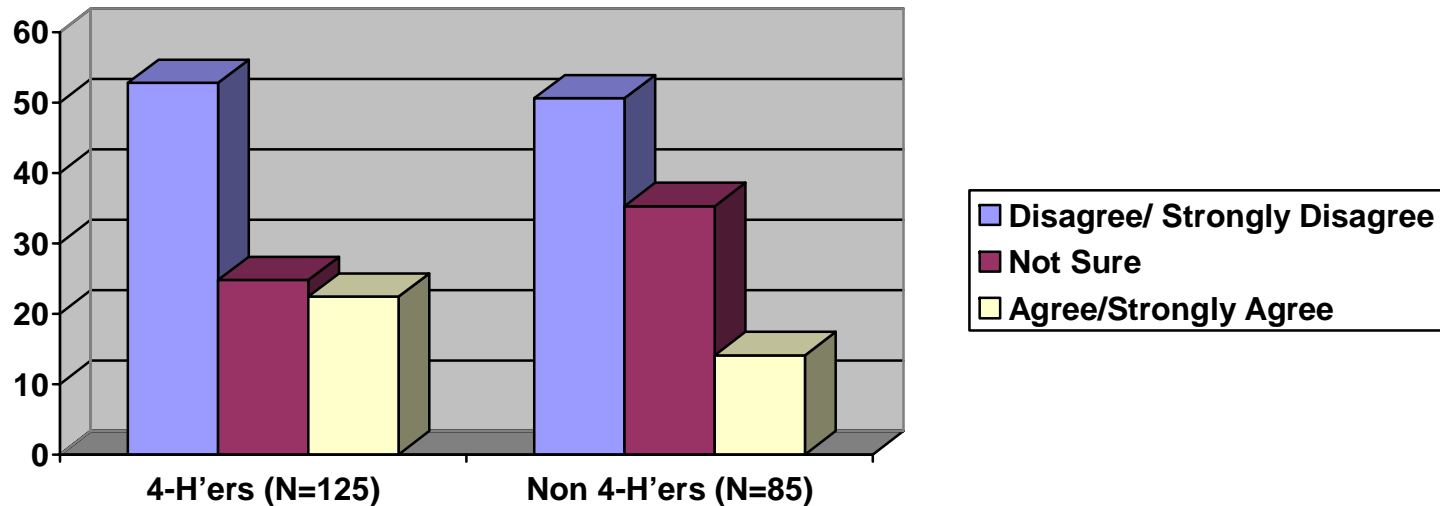
## My parents are interested in science and technology. (p<.111)

	4-H'ers (N=124)	Non 4-H'ers (N=88)
Disagree/ Strongly Disagree	18.5	20.9
Not Sure	46.0	57.0
Agree/Strongly Agree	35.3	22.2



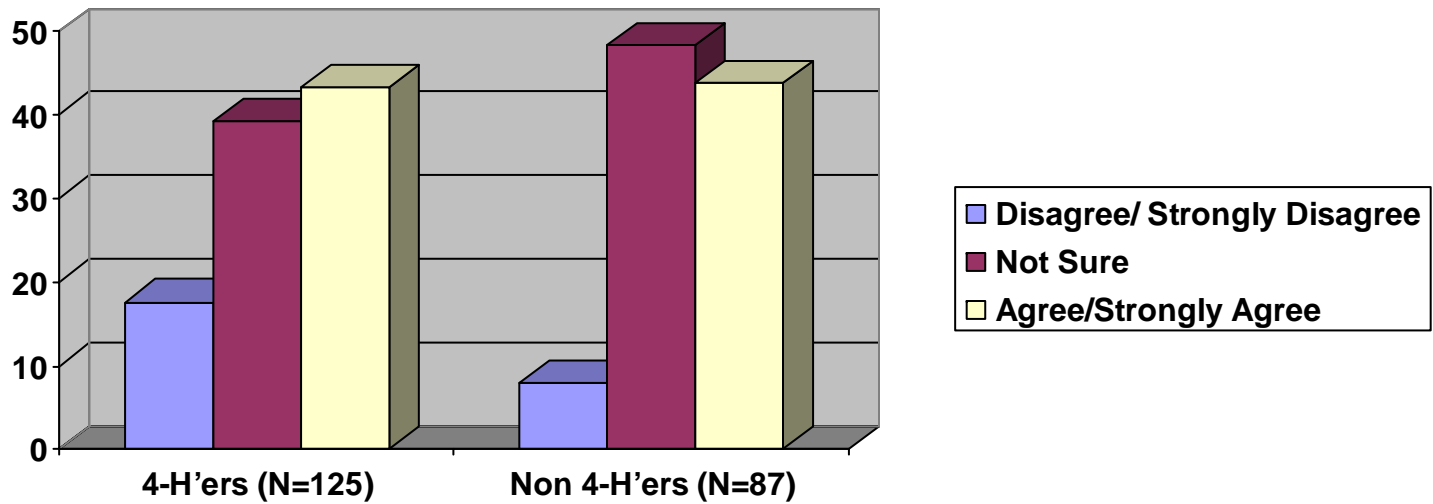
**Learning about or using technology makes me uncomfortable, irritable, and impatient. (p<.150)**

	4-H'ers (N=125)	Non 4-H'ers (N=85)
Disagree/ Strongly Disagree	52.8	50.6
Not Sure	24.8	35.3
Agree/Strongly Agree	22.4	14.1



## My friends think science is boring. (p<.110)

	4-H'ers (N=125)	Non 4-H'ers (N=87)
Disagree/ Strongly Disagree	17.6	8.0
Not Sure	39.2	48.3
Agree/Strongly Agree	43.2	43.7



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