

Proceed With Caution

BJHS 9th Grade
E-Cybermission
2009-10 Project



Problem

Many doctors and scientists believe cell phone radiation may be a serious health hazard.

Billions of people worldwide—including everyone we know—use cell phones daily.

Most people have little or no knowledge of the possible risks or how to reduce the risks.

Cell Phone Radiation

Two Types

Radio waves or radiofrequency (RF)

A form of electromagnetic radiation given off by cell phones & cell phone towers

Extremely low frequency electromagnetic field (ELF-EMF)

From cell phone battery





Are officials concerned?

- The World Health Organization (WHO) recommends reducing EMF exposure when possible.
- 14 countries have issued warnings about cell phone use, especially for children and young people. The U.S. has not.
- The U. S. Senate has conducted meetings with experts about the issue.

Who regulates cell phones?



- Federal Communications Commission (FCC)
Approves sale of phones that comply with RF exposure limits
- Food and Drug Administration (FDA)
Deals with health and safety issues
Requires recall of phones with unsafe RF levels



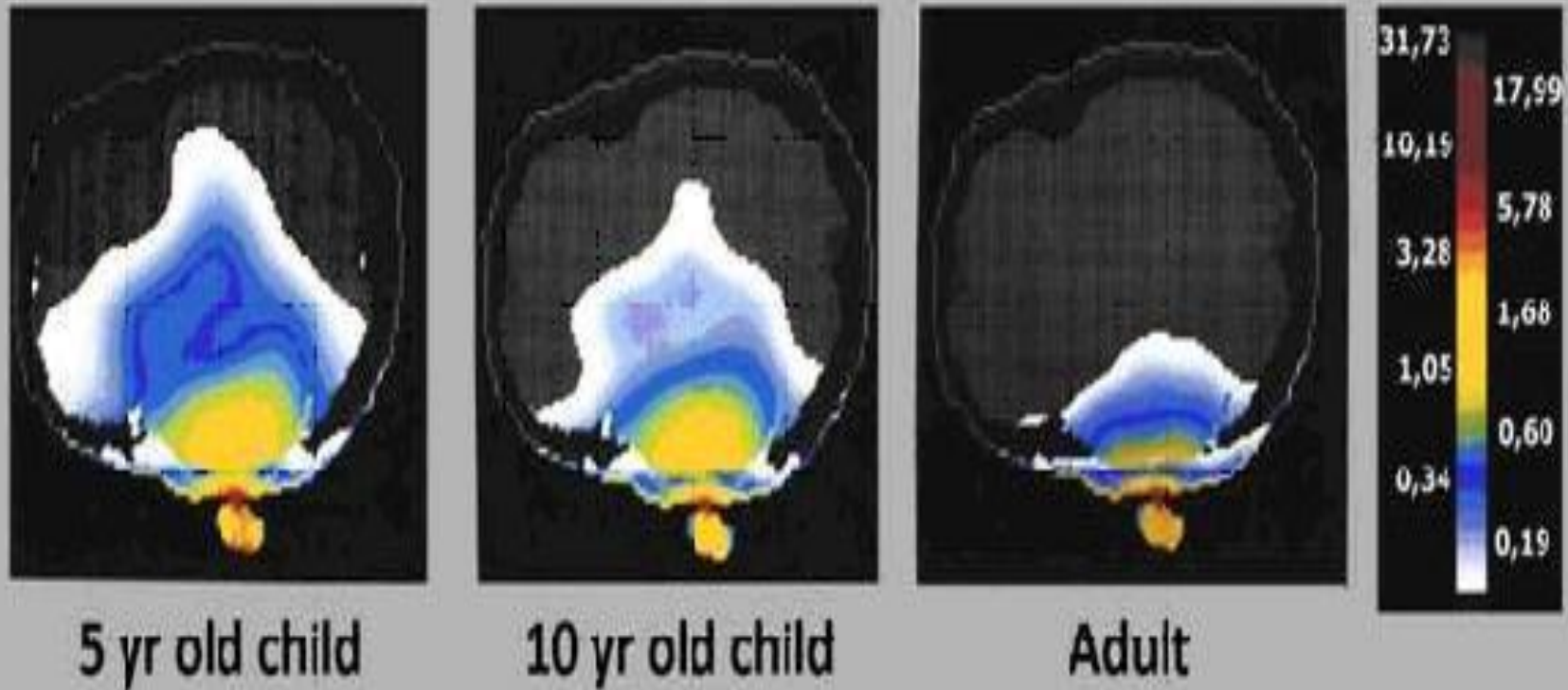
How might it harm you?

Some research studies show increased risk with long-term use for the following:

- Brain cancer on the same side of the head as phone is used
- Salivary gland tumors
- Reduced sperm count when phone is carried in pant pocket
- Other health problems, such as leukemia, headaches, sleep and memory problems

Age Matters

Cell Phone Radiation Penetrates Your Head



Source: Gandhi et al., IEEE Transactions on Microwave Theory and Techniques, 1996.

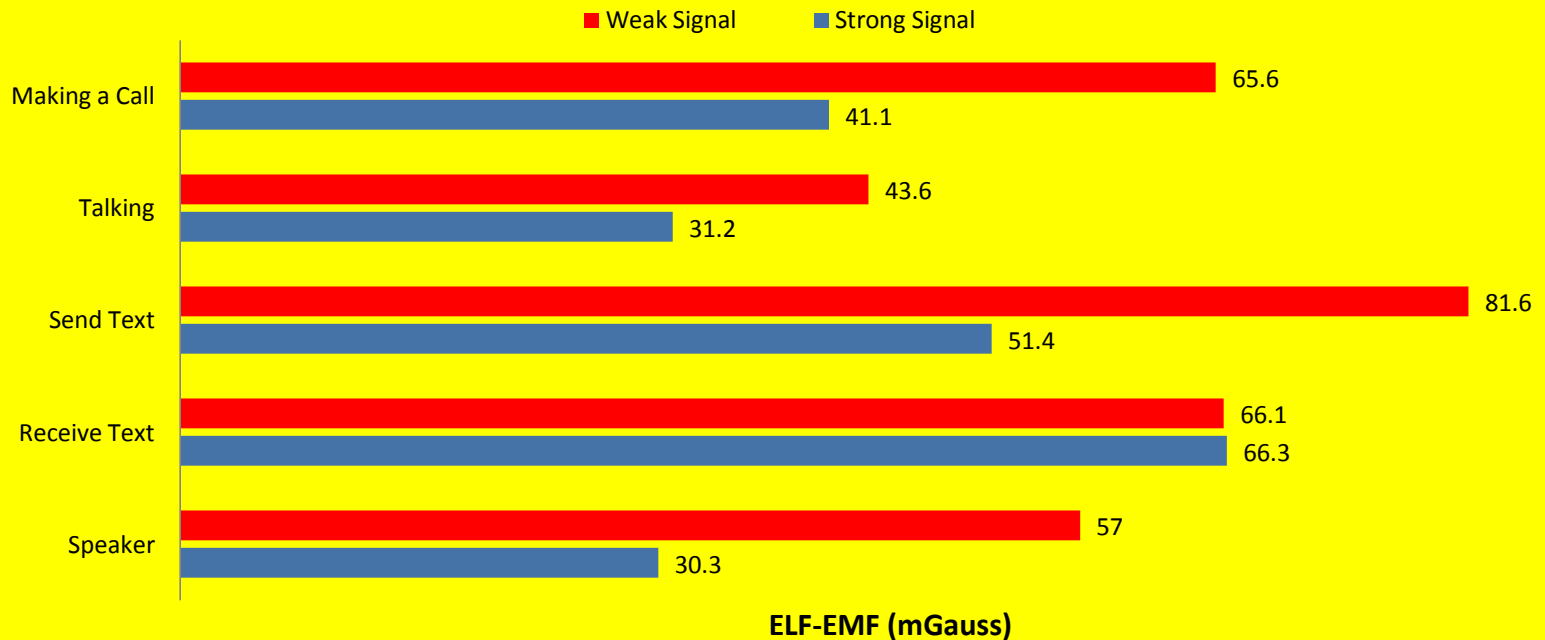
What else affects your exposure to cell phone radiation?

- Type of cell phone
- Distance of cell phone from your body
- How much you use your phone
- Geographic location



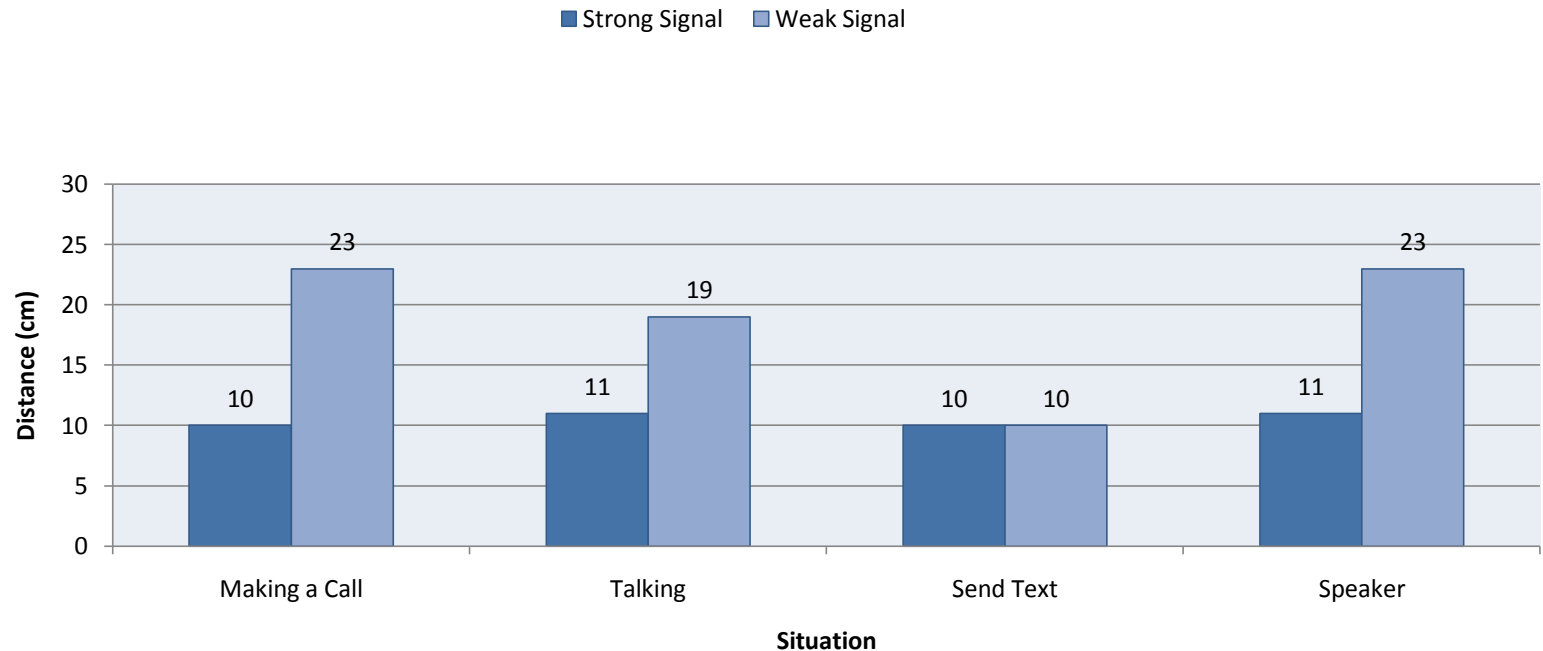
How you use your phone matters

Graph 1
Mean Effects of Signal Strength on Cell Phones'
ELF-EMFs on Rural School Campus



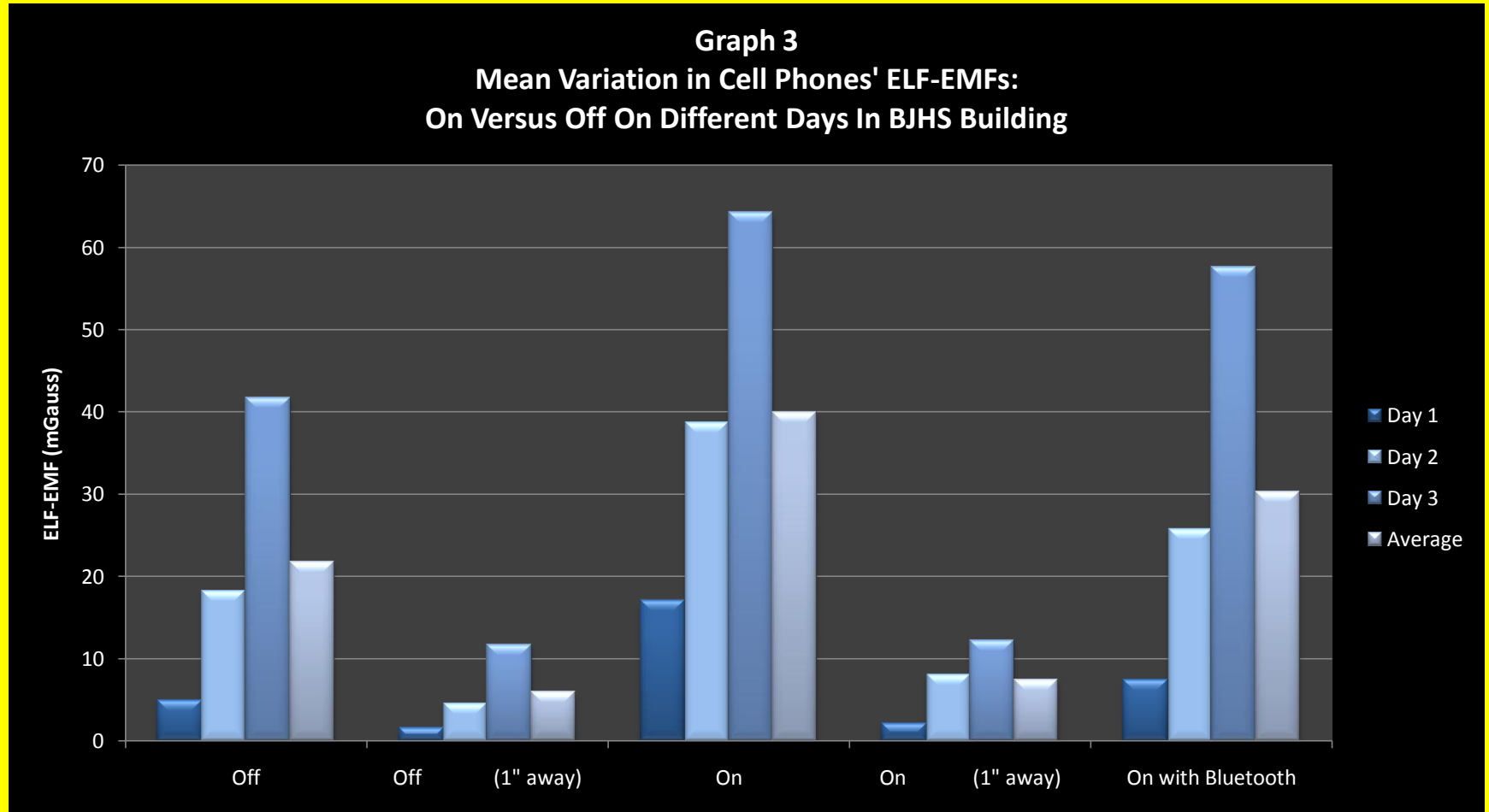
Weak signal means more radiation

Graph 2
Mean Distance Needed to Reduce ELF-EMFs to Background Level on Rural School Campus



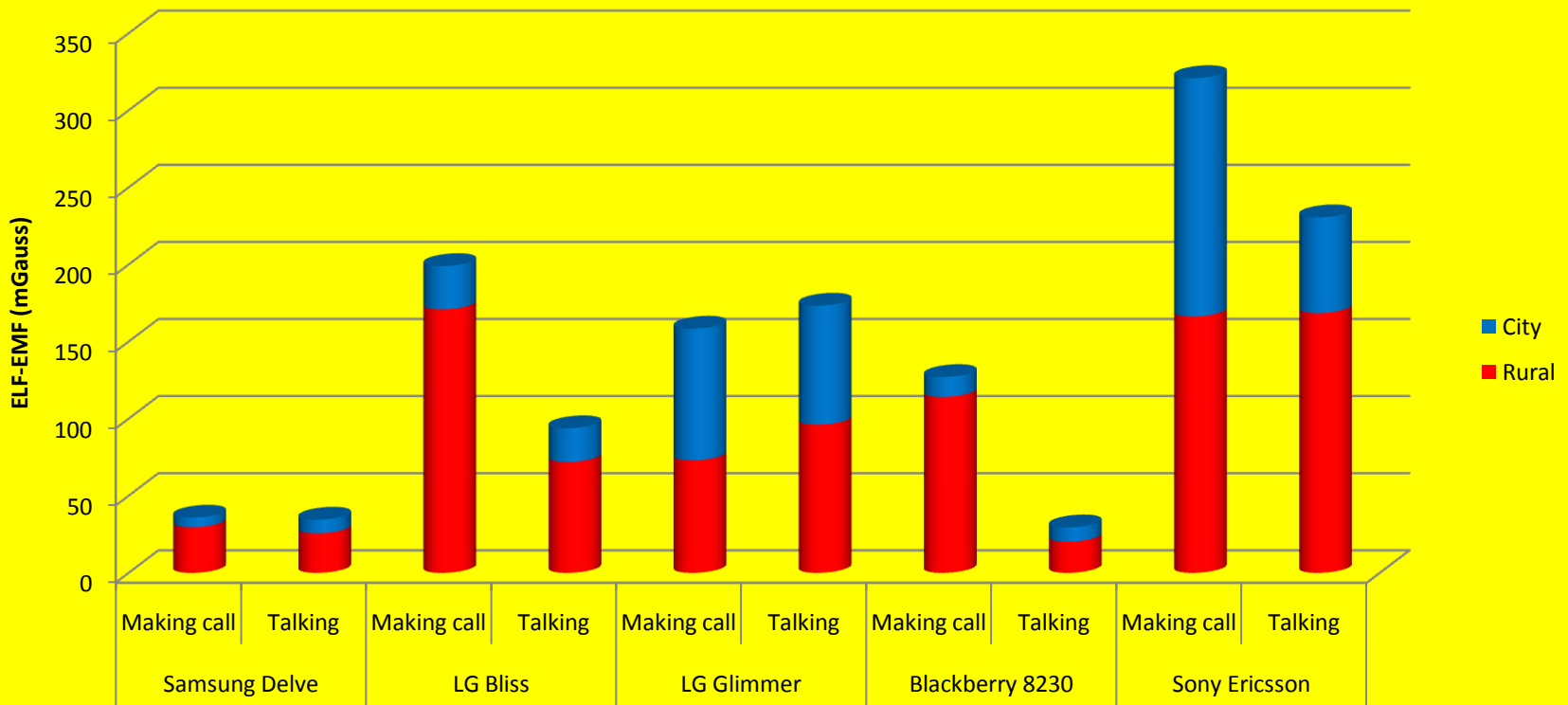
ELF-EMF from phone not being used

Off or On



Rural versus city cell phone radiation: More in Byng than Ada

Graph 4
Comparison of Cell Phones ELF-EMfs:
Rural Versus City



What BJHS students told us



- 87% have personal cell phones, almost 35% for 3+years
- At least 90% talk and text, most say they text more
- 35% talk more than 15 minutes/day
- About 1/3 use cell phones to access the Internet
- Approximately 89% usually use phones next to ear & try to connect with low signal strength
- Most live in rural location, use cell phones at school, and carry them in pant pockets
- >57 % did not think cell phones can be a health risk
- Only 6 knew anything specific about cell phone radiation



How to reduce your exposure to cell phone radiation

1. Reduce time spent on cell phones
2. Buy a low radiation phone
3. Wait for call to connect before placing to ear
4. Text instead of talk
5. Use headset for calls and then take off
6. Use speaker mode
7. Keep phone away from your body
(Carry at least 1" away, use about 2' away, do not sleep with it)
8. Do not use when signal bars are low
9. Do not use in vehicles unless you have hands-free.

Please Proceed with Caution



- We do not know for sure that cell phone radiation can be harmful to our health, but many are already convinced
- It is easy to reduce your exposure to cell phone radiation
- We think it is better for us all to be safe in the phone zone now, than sorry later!