COMMONLIT

Name: _____ Class: _____

'Couch potatoes' tend to be TV-energy hogs

Small group of heavy U.S. watchers use one-third of all energy linked to TV viewing

By Kathiann Kowalski
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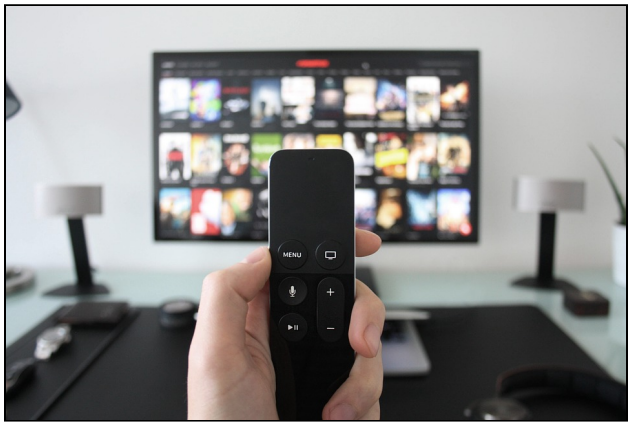
How many hours of television do you watch a day? Depending on your answer, you could be responsible for wasting a lot of electricity. As you read, take notes on how couch potatoes can help save energy and reduce global warming.

[1] Television brings us lots of news and entertainment. It also eats up electricity. A new analysis now offers a bright idea for lowering the electricity used by TV viewers: Focus on the couch potatoes.



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Energy-efficiency programs[1] reward people for doing things to use less electricity. For example, new TV sets tend to use far less electricity than older ones. So an energy-efficiency program might offer money back — a rebate — to anyone who buys an energy-saving TV.

But some people will save far more electricity than others if they make the switch. That's what Eric Williams and his team found. Williams is a sustainability scientist at the Rochester Institute of Technology in New York. His work combines social science, engineering and data analysis.

His team focused on how people use their TVs. To do that, they mined[2] data from the American Time Use Survey. The U.S. Bureau of Labor Statistics conducts this survey. Each year, it asks more than 11,000 people to spell out how they spent their time the day before.

[5] The Rochester team put all of the survey data on time spent watching TV into a computer model. Then the model used math equations to divide these people into three groups. The equations work to reduce to a minimum any differences between people in each group, Williams explains.

On average, about 54 percent of U.S. viewers watch TV for slightly more than one hour each day. Another 33 percent watch about 3.5 hours per day. The average TV time for the remaining 14 percent was about 7.7 hours each day. Indeed, people in that last group — the so-called "couch potatoes" — typically spent nearly half their waking hours watching TV.

1. programs with the goal of reducing how much energy is used
2. to extract something of value from a source

The research team then estimated the amount of electricity used by each group. To do this, they based their calculations on an average television. And they showed that the 14 percent in that heavy-viewing group — "is responsible for a third of the total TV-energy use," says Ashok Sekar. He's a graduate student at the Rochester Institute of Technology.

Using the findings

The team then dug into the data to see who those heavy viewers were. Half of them were over age 54. People in the group were more likely to work part-time or be retired. In general, those people also had less education — and less money to spend — than those in the other groups.

If those people switched to a new TV, they would save the most electricity. On average, Sekar points out, "The heavy watcher will get seven times the energy savings compared to the light watcher."

[10] "People are different, and those differences in what you like make a big difference in how you use energy," notes Williams. Understanding that might help government set policies aimed at helping the environment, he points out.

Here's how. About two-thirds of the nation's electricity comes from power plants that burn coal or other fossil fuels. (Those numbers come from the U.S. Energy Information Administration.) Among other things, these fossil-fueled plants emit[3] carbon dioxide and other greenhouse gases.[4] Power plants that burn fossil fuels are the single largest U.S. source of those gases. Those power plants, alone, spewed some 30 percent of the total in 2014, notes the U.S. Environmental Protection Agency. So lowering electricity use can cut down on the pollution that helps drive global warming.

Knowing these TV viewing patterns can help improve programs to promote energy efficiency. Those programs cost money. So it makes sense to get the most value from the money spent. The new study suggests the best plan may be to zero in on the small group of viewers who watch TV the most and then encourage them to buy more efficient TVs.

Extra benefits

Getting those people to switch would also save society money. "There's actually double savings," Sekar notes. "The purchasers save money because they're using fewer kilowatt-hours" of electricity. (Kilowatt-hours is how power companies measure electricity use.) And electric companies save money "if they're using less power during the peak" periods of energy use, he adds. (That's because they must run extra, less efficient plants to generate the extra power at this time of day. Alternatively, they might need to buy that electricity from another company.) Those peak times tend to occur in the afternoon and on especially warm days.

The researchers also have a few ideas about how to tweak existing energy-efficiency programs. An electric company might send a postcard to all customers about rebates[5] on low-power TVs and appliances. That company might also make phone calls to customers who fit the "couch potato" profile and explain how much energy — and money — they might save with a new TV.

3. **Emit** ***(verb):*** to produce and discharge something, especially gas or radiation
4. any of the gases that trap heat in the Earth's atmosphere and contribute to its warming
5. a sales promotion used as an incentive through a price reduction or refund

[15] Another idea: Change the Energy Star labels on new TV sets. Right now, those labels report energy costs for an average viewer. But, as the study shows, many viewers use their TV sets far more than average. Perhaps the label could add a QR code,[6] says Williams. A shopper might then scan the code with a smartphone. An online survey would then ask about that person's TV-viewing habits. And that website might spell out how much that person might save on energy bills by switching to a new TV.

A similar approach might work for other things that hog electricity, Williams adds. For example, some people may use air conditioning, dishwashers or other appliances far more than others do. Studies could find out who those heavy-use groups are. Then focused programs could target them with data to help them figure out how to cut back their electricity use.

What can you do?

You don't have to wait for more studies to save energy, says Williams. "Look at your own household and ask the question, 'What do we do a lot of?'" Then find out if you're using the most energy-saving technology for that activity. If not, think about making a switch, he says. In this way, everyone can help curb[7] global warming.

Reuven Sussman is a social psychologist. He works for the American Council for an Energy-Efficient Economy, in Washington, D.C. He studies ways to get people in society to reduce their energy use. "It is important to understand what behaviors are resulting in energy consumption," he says. Only in that way, he explains, can people figure out who to target about making changes in energy use. The more specific that advice can be, he says, the more likely it will lead to change.

In other words, don't just list TV-watching as one of many things that uses electricity. Advise people who watch lots of television to make a particular change, such as scrapping an inefficient TV.

[20] Better still, says Sussman, watch less TV! "It's also healthier to do non-television activities than it is to watch television," he notes. Spending too much time watching TV has been linked to several physical and mental health problems in both children and adults. Studies have found links between heavy TV-watching by children and obesity and increased aggression, for example.

So "stop watching television," Sussman advises students. Or, at least watch a lot less.

6. a type of barcode that provides information to a smartphone or smart device
7. restrain

Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. PART A: Which statement best expresses the central idea of the text?
    A. Watching television wastes more energy than any other activity and is the biggest contributor to global warming.
    B. Despite how much money it could save television-watchers, many companies don't sell energy-efficient televisions.
    C. People who watch more television and use the most electricity don't care about the health of the environment.
    D. The people who watch the most television, also have the greatest potential to save energy and help the environment.

2. PART B: Which detail from the text best supports the answer to Part A?
    A. "On average, about 54 percent of U.S. viewers watch TV for slightly more than one hour each day. Another 33 percent watch about 3.5 hours per day." (Paragraph 6)
    B. "On average, Sekar points out, 'The heavy watcher will get seven times the energy savings compared to the light watcher.'" (Paragraph 9)
    C. "For example, some people may use air conditioning, dishwashers or other appliances far more than others do. Studies could find out who those heavy-use groups are." (Paragraph 16)
    D. "Spending too much time watching TV has been linked to several physical and mental health problems in both children and adults." (Paragraph 20)

3. What is the author's main purpose in the text?
    A. to encourage readers to switch to more renewable sources for energy
    B. to inform readers on the best television to buy to save energy
    C. to show which television-watchers use the most energy and how they can conserve it
    D. to explore all the different types of activities that contribute to global warming

4. How do paragraphs 19-20 contribute to the development of ideas in the text?
    A. They emphasize how little is truly known about how much energy people use and what they use it for.
    B. They stress how complicated it is to get people who use a lot of energy to switch to energy-efficient products.
    C. They show how understanding people and their energy-usage will lead to better energy-saving methods.
    D. They support the claim that watching television is the biggest waste of energy in most households.

5. What is the relationship between watching television and global warming? Use details from the text in your response.

Discussion Questions

Directions: Brainstorm your answers to the following questions in the space provided. Be prepared to share your original ideas in a class discussion.

1. In the text, the author discusses how watching television consumes energy but also explains that this is not the only energy-consuming activity in the typical household. Consider all the activities and services that you rely on that are powered by electricity. Which of these can you cut down on or switch to more energy-efficient versions?

2. The text explores a study that analyzed how the amount of television watched related to energy consumption. How much television do you watch? Would it be worth it for you to switch to a more energy-efficient television? Why or why not?

3. In the text, the author discusses how televisions that aren't energy-efficient contribute to global warming. What are other technologies that humans rely on that are bad for the environment?