

# Math in the Media: Accuracy and Ratings



## Math In The Media



### Accuracy:

One of the major complaints about the Nielsen ratings is that they are outdated, ineffective and inaccurate. Have students consider this fact as they explore ratings and advertising during these lessons.

Even the most experienced industry users of TV ratings data are liable to forget one crucial point—the numbers aren't real. Like any survey data, Nielsen ratings are subject to statistical errors of various kinds, as well as issues of cooperation rates, respondent compliance, and so on. They are merely estimates, after all. As such, it doesn't make much sense to present them beyond one decimal point, because this implies a degree of accuracy that doesn't exist. Also, small differences in ratings numbers often are not statistically significant. Claiming victory with a 10.4 share over a competitor's 10.2 share may not be only trivial, it may be just plain wrong. The Nielsen data are currently the only game in town. This has led to criticism by some users that the numbers could be better. The three major TV net works have set up a "ratings laboratory" demonstrate that it is possible to collect better viewing data. Whether or not Nielsen refines its methods or faces competition in the rating business in the future, the above disclaimers and cautions will remain in place because the data will remain complex and open to misinterpretation. Despite these caveats and pitfalls, TV ratings will remain a source of vital information for those within the media world. For those outside of it, they can provide a fascinating mirror of our society and time.

from *How to Read TV Ratings* by James C. Roymondo, American Demographics magazine, March 1997

## Network Execs Question Nielsen Accuracy

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By DAVID BAUDER, AP Television Writer

NEW YORK – Television’s biggest mystery this season has nothing to do with what’s on the air. Everyone in the industry is talking about it: Where have all the young viewers gone? Or have they gone anywhere at all?

It’s just another chapter in the TV’s dysfunctional marriage to the Nielsen ratings, where breaking up would be more painful than staying together.

Nielsen Media Research’s claim that prime-time viewing among men aged 18-to-34 has dropped by 7 percent this season is hotly disputed by TV networks, where overall viewership is down this season. The debate has renewed long-running tensions between broadcasters and the company they pay to measure their audience.

Given Nielsen’s monopoly, the clash is inevitable. The research company’s numbers decide where billions of dollars worth of advertising is spent and whether TV shows – even entire networks – live or die.

Several broadcast executives wonder whether Nielsen is unfit for a wired world with hundreds of networks, digital video recorders and impatient channel surfers.

“I do worry about technology’s advances being ahead of Nielsen’s ability to measure it,” said Alan Wurtzel, research president at NBC, which has lost, on average, more than a million viewers a week from last year. “I do believe that has everything to do with being a monopoly.”

The monopoly is as old as the medium, ever since Arthur Nielsen translated the measurement system that he devised for radio in 1942 to television. The company has been largely impervious to challenge; one notable attempt went under in 1999.

Criticism from the networks grows loud whenever Nielsen detects an unexpectedly large drop in TV audience size.

“A few years ago, (young male viewership) was at a record high, and there was no outrage expressed against that,” sniffed Jack Loftus, Nielsen spokesman.

One of the industry’s top number-crunchers, CBS chief researcher David Poltrack, believes this autumn’s ratings drop can be tied to 105 men who aren’t pushing enough buttons.

Nielsen gathers its ratings through a sample of 5,100 homes nationwide. Among men aged 18-to-24, where the bulk of the viewership decrease is concentrated, that’s just 600 people. Poltrack wants Nielsen to investigate whether a subset of these men – just 105 of them – are unreliable because they really don’t want to participate in Nielsen’s study.

Wurtzel has suggested that Nielsen has worked hard to recruit new Hispanic viewers into its sample, and that they have proven less reliable than past participants in punching the buttons that record what they’re watching.

Almost every time there’s a blip in the statistics, the sample is responsible, Wurtzel said.

After a long investigation, a mysterious drop in TV watching in 1972 was traced to Nielsen using a new glue to attach its monitoring device to televisions. When the TV set warmed from use, some of the monitors loosened and dropped off.

“We have billions of dollars riding on this,” Wurtzel said. “We can’t afford to have mistakes.”

Loftus dismisses Wurtzel’s theory, saying the number of new Hispanic viewers is too small to make much difference. Nielsen is looking into Poltrack’s ideas, but said it has found no evidence of a large drop in participation.

There’s always the obvious explanation: maybe men are actually watching less TV.

Kate Lynch, global research director at the advertising firm Starcom USA,

understands why Wurtzel and his network colleague don't want to believe that.

"All he can sell is his audience," she said. "If they're missing, he's got to blame somebody."

The networks are concerned that Nielsen's measurement system, which worked well in the days of three big broadcast networks, is archaic today. Viewership is so small for some of the tiny cable networks that Nielsen can barely offer a reliable picture of who's watching.

Nielsen admits that its sample does not include homes with digital video recorders – machines like TiVo ([news](#) – [web sites](#)) – because it can't measure shows that are recorded and watched later. Networks say bypassing these tech-savvy homes means Nielsen is bypassing some of the most dedicated TV viewers, perhaps skewing their survey.

It will be at least a year or two before DVR homes are included, Loftus said.

Nielsen has committed to doubling its national sample of 5,100 homes within two years. Getting ready for the days of digital TV signals, Nielsen is experimenting with a device that reads codes embedded within the TV picture.

The company has also tested systems that would make it easier for participating families, such as an electronic sensor of who is watching, but found them to be more expensive than clients were willing to pay, Loftus said.

Nielsen has been very aggressive, Loftus said, but its ability to cope with a rapidly changing world is a legitimate question.

"We all have a stake in this and we all have to work together, and that's what we're trying to do," he said.

Ultimately, there's some question about how aggressive the networks want Nielsen to be.

Networks and advertising agencies spent \$60 million in the 1990s to

bankroll a Nielsen competitor, Statistical Research, Inc., that experimented with technologies more advanced than anything Nielsen was using at the time.

When SRI was operating, Nielsen "was never more responsive to their customer base," Wurtzel said.

Yet faced with the decision in 1999 of whether to fund SRI fully so it could put its experiments in operation, the networks balked.

"In many ways the industry has what it bargained for," said Gale Metzgar, SRI president. "They did let (SRI's system) go down the drain."

Starcom's Lynch, who believes Nielsen is doing "an OK to good job," said networks are suspicious of innovation for fear of what new measurements will tell them.

For instance, advertisers have unsuccessfully tried to get Nielsen to measure how many people are watching commercials. One recent non-Nielsen study of DVR users found three-quarters of them fast-forwarded through ads; networks have no interest in publicizing that, she said.

"They want good numbers," she said. "Not accurate numbers."

Poltrack, who believes Nielsen has improved its service but also worries about its ability to deal with new technology, conceded a certain fear of the unknown.

"What we need, what we look for Nielsen to provide, is stability," he said.

The current flap over young viewers is familiar; networks took out magazine advertisements in 1996 to complain when Nielsen reported a dropoff in pro football viewership that year.

"This problem is here today and will be gone tomorrow and then we'll forget about it," Metzgar said. "Then, five years from now, another problem will crop up."