



Fault Rates in Context June 2005

The Nielsen households that determine TV ratings need to be representative of the entire television market in which they are located. As a first step, Nielsen works hard to recruit a sample that accurately represents the local community; it then strives to make sure that everyone in the household records his or her TV viewing. At the local level, some of these households record their viewing through electronic Local People Meters (LPMs); in other homes, people record their viewing through paper diaries.

With people meters, viewing habits are recorded 24/7. Meanwhile, all aspects of life – good times, sickness, people entering and leaving the household, change of jobs, hardships – continue while these families participate. To ensure that Nielsen collects the most accurate information possible, family members must be well-trained on the technology Nielsen installs in their homes, and they must get follow-up training over time. Part of what Nielsen does in this process is identify and address fault rates.

What are Fault Rates?

- The term *fault rate* refers to the percentage of homes or persons that do not pass Nielsen's strict quality standards on a given day and are therefore excluded from reported ratings on that particular day.
- Every day Nielsen's computers download viewing data from the meters in its sample households. If the data isn't complete because of electrical failure, machine failure, telecommunication failure, out-of-sync tuning of a television set or any other reason, it cannot be tabulated in that day's results and is considered in "fault."
- Because faulting is inherent in any human measurement system, it occurs in all types of survey research, including telephone opinion polls, diary-based samples and television metered panels. Nevertheless, it is important to understand that faulting is much easier to detect and correct in a people meter household than in a home that uses a written paper diary.
- Fault rates also tend to be seasonal. Higher faulting occurs during the winter holidays and the summer, when viewing patterns change and there are more people in the home. This is a pattern that occurs every year.
- Fault rates don't significantly affect ratings since Nielsen can still produce accurate data through a statistical process known as "weighting." If a home does not produce data, Nielsen can increase the "weight" given to the other sample households from that demographic, thereby moving closer to the true estimate of viewing by that demographic. This is similar to what other market research and polling firms do when they balance out their samples before reporting final results.



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- It is also important to understand that faulting is much less important to a sample's accuracy than other factors, such as the size of a sample, the percentage of targeted households that agree to accept a people meter, or the demographic representation of the sample.

Reasons for Faulting

- There are two kinds of people meter faulting: 1) “Set Level” faulting, which is typically technical in nature; and 2) “Persons” faulting in which data on who is watching television is incomplete.
- The most common reasons for technical faulting are:
 - 1) Watching stations that are not in Nielsen’s records as being received by the household. This happens, for example, when a household changes its cable options (e.g., adding a premium channel, changing from the basic to expanded “tier” of programming, switching to digital cable, etc.) without notifying Nielsen.
 - 2) Incomplete or failed downloading of the viewing data to Nielsen’s collection facility in Florida. This occurs, among other reasons, when telephone service is interrupted to the home due to power outages caused by storms, summer heat or other causes.
 - 3) Having a TV set that is unplugged from the Nielsen meter in the home.
 - 4) Adding a TV, VCR, or other device to the household before being properly connected to the meter by a Nielsen field representative.
- The most common reason for behavioral faulting is a household member using the people meter incorrectly, such as failing to log in properly.
- “Differential” faulting occurs when there are different fault rates among different demographic households. Different percentages of usable data is a phenomenon that occurs in all survey research systems including meters, diaries, polling, questionnaires, etc. Nielsen is taking steps to reduce differential faulting, which are described below.

Who Faults

- The more television activity there is in a home, the greater possibility there is for activities that cause faulting.
- As a result, faulting is generally higher among:
 - larger households
 - younger households,
 - households with children,
 - households with more VCRs, video games and other devices.



- As the following charts show, some of these household characteristics have significant differences in fault rates. For example, the fault rate for families without children is 10.4% compared to 24.4% for families with four or more children.

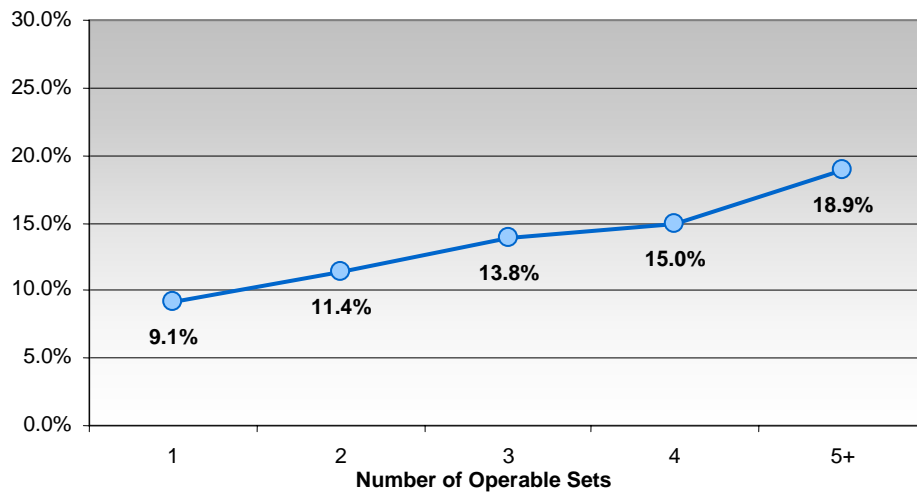
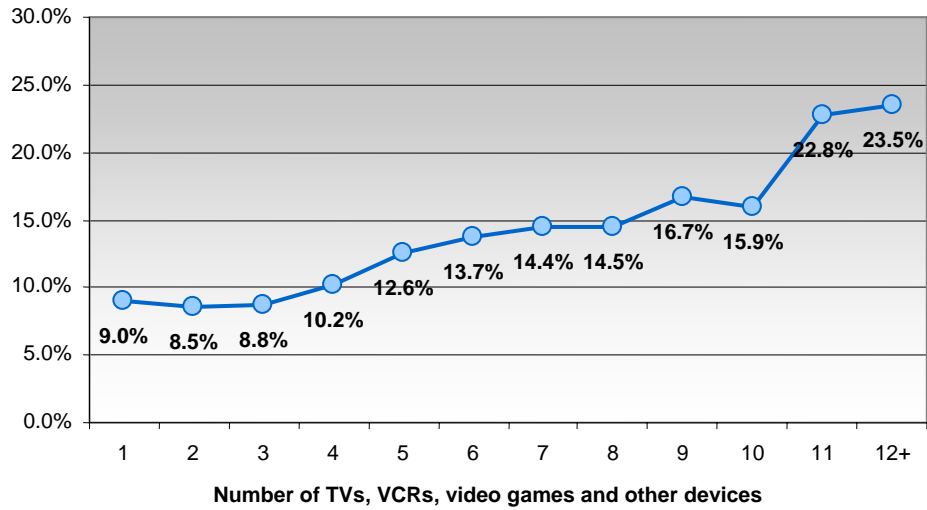
Race Does Not Cause Higher Fault Rates

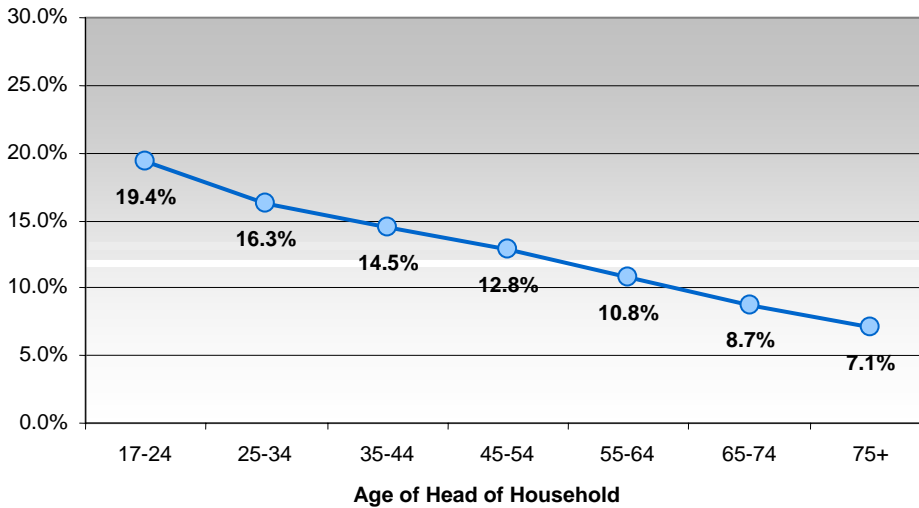
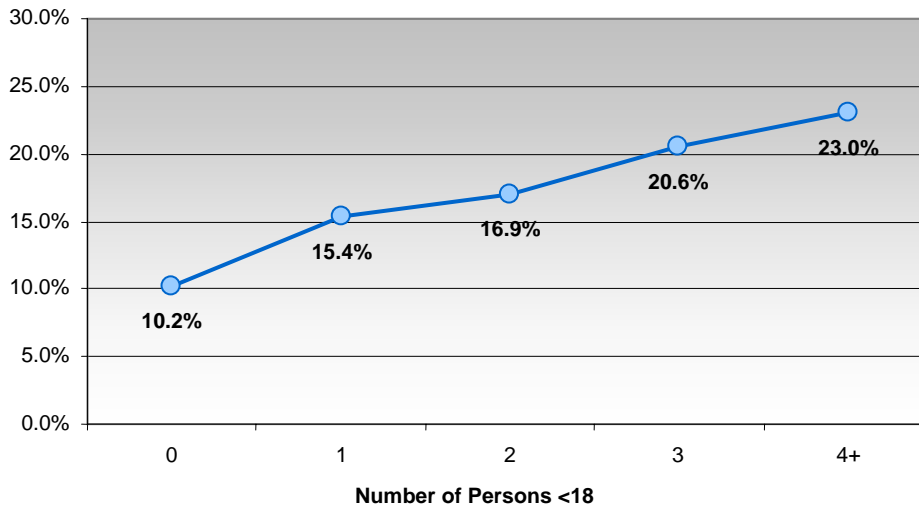
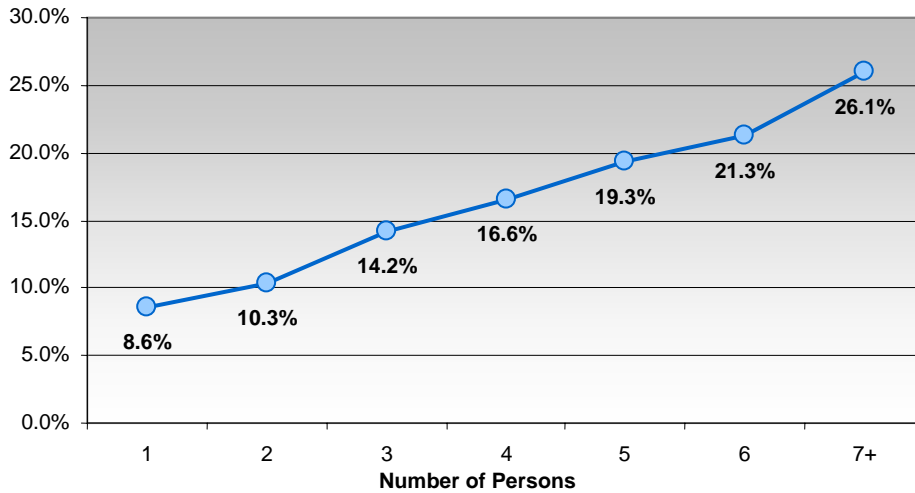
- Nielsen Media Research is under attack by an organization created by News Corp. called Don't Count Us Out, which is trying to undermine support for Local People Meters. This group has been promoting the misleading concept that Local People Meters are undercounting minority audiences, in part because of fault rates.
- Don't Count Us Out is trying to confuse people by mixing "correlation" and "causation" and implying that race affects faulting. There is a well-understood concept in statistics that correlating items with one another does not mean that one thing "causes" the other. For example, if older people vote in a higher percentage than younger people, it does not mean that age causes voting. Instead, a number of factors correlated with higher voting, such as marriage, parenthood, property ownership, etc., are more likely to be associated with older people.
- The same principle is involved in faulting and minorities. The reasons for faulting (higher number of persons in the home, number of persons under age 18, younger heads of households, number of television sets and electronic devices, having a telephone or renting your home) explain all but a very small percentage of the differences between minority and non-minority households when it comes to faulting.
- When Don't Count Us Out announces that minorities have higher fault rates, they are deliberately confusing correlation with causation to play racial politics.
- As the following graphs indicate, differential fault rates result from a number of factors unrelated to race. Therefore, when you look at a single person with two sets, it is logical that the household has a lower fault rate. Conversely, it is logical that a home with several children, a younger head of household and numerous sets would have a higher fault rate.



Patterns of Differential Faulting

Fault Rates for Sets and Persons Edits by Household Characteristic
All People Meter Samples September 2004







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Reducing Fault Rates

- Nielsen has committed considerable time and resources to minimize fault rates. The major initiatives include:
 - **More Field Staff:** Investing millions of dollars over the past year to increase the field staff and their training in each of the LPM samples. This has resulted in a better sample household-to-field/membership representative ratio and allows it to better manage its samples in large urban markets.
 - **Personal Coaching “Plus”:** In May 2005 Nielsen implemented an aggressive program of coaching homes to avoid faulting and to encourage their cooperation when we need to visit their homes to fix faulting conditions. This program consists of a team approach to coaching each member of the family, coupled with a performance-based incentive program that is designed to progressively reinforce fault reduction with monetary rewards. Targeting demographic segments that are traditionally more difficult to keep in tab, we also send reminder mailings that identify key behaviors that would encourage compliance for the sample household.
 - **Proactive Dedicated Phone Lines:** Nielsen Media Research routinely installs a dedicated phone line to retrieve viewing information in homes that suffer from a high level of communication-related faults. We have recently begun to identify homes with a higher potential for faulting, and are now proactively installing dedicated phone lines upon recruitment, rather than waiting for communication-related faults to occur.
 - **Incentives.** Nielsen is currently testing the possibility of delivering incentives to individual household members instead of providing them at the household level.
- One possible solution that is not currently under consideration by Nielsen is eliminating households with chronically high fault rates. Nielsen believes it is important that its samples be as representative of the community as possible and will go to great lengths to recruit and maintain a household in the sample. Rather than eliminating high-faulting families, Nielsen prefers to work with the members of the household to change activity that leads to higher fault rates. Of course, when all efforts to reach a home fail, that home will be removed from the sample and replaced.