Figure 2.6a. SURVEY SAMPLING: Opinion Polling – An Introduction

EM9107: Kitchener-Waterloo Record, May 21, 1991, page A7

Polling has reached the big time – don't you think?

By Glenn Cheater
The Canadian Press

WINNIPEG – Striding restlessly about his 19th-floor suite of tastefully furnished offices, Angus Reid doesn't mourn what might have been.

A dozen years ago, the 43-year-old pollster was a well-paid sociology professor at the University of Manitoba. He had tenure and enough leisure time to dabble in public opinion surveys.

Now Reid's 400 employees interview more than half a million Canadians every year and he can joke about the comfortable academic life he left behind.

"Someone once referred to it as welfare with dignity; I mean it was a nice, easy job teaching and I had no intention of leaving the university," says the energetic president of the Angus Reid Group, one of Canada's largest polling companies.

"I never viewed this as the kind of enterprise where 10 years later we'd be doing 10 or 11 million dollars a year in business."

Polls have become big business since George Gallup first used his market research techniques to help his mother-in-law win election as Iowa's secretary of state in 1932.

Pollsters have an obsession with numbers – quantifying just about everything except themselves. The Professional Marketing Research Society – polling's professional body – doesn't keep track of the number of pollsters in Canada or the number of polls.

But Reid's group will conduct about 600 this year. The federal government alone will spend over $20 million this year taking the public pulse.

"There are more (polls) all the time," says Alan Frizzell, professor of journalism and director of Ottawa's Carleton University Survey Centre. "What people are now doing is polling on a whole range of policy issues," he says. "We know people's thinking on capital punishment, on women's issues, on the environment .... All sorts of groups are getting in on the action."

In the last few months, Reid's organization has discovered that cancer patients in chemotherapy worry more about nausea and vomiting than physical pain; that Ontarians don't want no-fault auto insurance; that businesses risk losing one-third of their customers each year because of poor service; and that 30 per cent of Saskatchewan TV viewers would sooner cancel their cable service than pay a $2 cable tax.

Polling makes for a more open system of government, says Reid. "Ultimately in a democracy, it's the public that has to speak. I guess we're a big set of ears that help people listen to what the public has to say."

But others argue that those ears only hear what they want to hear and that polling has given governments and other groups new ways to manipulate public opinion.

"Really, it's a minimal version of participation that's involved here – where you get to answer a set of questions over the phone," says Paul Thomas, a political scientist at the University of Manitoba.

Thomas says there are many reasons to distrust the reliability of polls and their use. People who answer polls are often reluctant to admit they don't know about an issue and will offer an opinion.

And polls frequently reduce complex issues to simplistic choices and are of little use in helping governments determine policy.

Reid admits polls have become an essential part of every government's "propaganda machine" but he also views polls as playing a key role in history.

He suggests public opinion helped persuade U.S. President George Bush to help the Kurds after earlier promising not to interfere in Iraq's domestic affairs.

"I really believe that one of the most important phenomena of our time world-wide is the force of public opinion," says Reid.

Thomas would like to have a better look at those numbers. Canadians would have a much better idea of the value and dangers of polls if they knew what kinds of questions governments are asking and what kind of answers they're getting, he says. "If they're paid for out of public funds, I don't see why we shouldn't have a glimpse of them."

EM9108: Kitchener-Waterloo Record, May 21, 1991, page A7

Opinion sampling is part science, part alchemy

In the mysterious realm of pollsters, no one cares how many angels can dance on the head of a pin.

They're more concerned that the use of clusters in random digit dialing might be producing unacceptable sampling variance.

It all sounds very scientific, but there's a bit of the alchemist in the people who can interview a few hunderd people and then boldly assert what an entire country is thinking.

"Polling is a black art," says Gary Mauser, a former pollster who now teaches and writes about polls. "The sampling is the science part. The mystical black art is the questioning and the interpretation" of the answers.

Even the most credible poll requires a leap of faith for those who wish to know what Canada thinks. Polls tend to be a snapshot of what people are thinking at the time. They don't necessarily reflect a person's true beliefs or predict what they will do in the future.

Which is, of course, why politicians can routinely do poorly in polls between elections and yet manage to get re-elected.

In the end, the public will be asked to believe something such as: This poll is considered accurate within four percentage points 19 times out of 20.

Of course, no one actually conducts the same poll 20 times. The well-worn phrase is merely a statistical way of saying that, if the poll were done 20 times, one set of results would be far off base and the rest would be fairly close together.

Close, but not exactly the same.

For example, consider two polls – both considered accurate within four percentage points – that ask Canadians to evaluate the performance of Prime Minister Brian Mulroney.

If the first poll found 29 per cent thought Mulroney was doing a good or very good job and the second, later poll found a 35 per cent approval rating, you might think the PM's political stock was on the rise.

(*continued overleaf*)

But the margin of error means that Mulroney's actual approval rating might have been 33 per cent when the first poll was done and 31 per cent when the second was conducted – in other words, the prime minister's popularity actually would be falling, not rising.

Mauser and other experts say it's easy to cook poll results to suit a particular purpose. It all depends on the question, he says.

"In abortion, you can get numbers running from 20 to 90 per cent for Canadians supporting abortion," says Mauser, a professor of business administration at British Columbia's Simon Fraser University.

A poll which asks people if they support abortion on demand would find most people opposed to abortion, says Mauser.

But most people would say yes if asked if they believe a woman should be able to have an abortion if her doctor determines her psychological or physical health is at risk.

"You can mislead people with the questions you ask; polls are used for political purposes all the time," says Alan Frizzell, a professor of journalism and director of Carleton University Survey Centre in Ottawa.

"If they don't tell you the question," he says, "then don't believe the results."

1 For the first article EM9107 *Polling....* reprinted overleaf on page 2.63, list in point form the types or sources of *non*-sample errors in polls that are mentioned; identify explicitly the paragraph of the article you refer to in each case.
- Explain briefly where *sample* error is mentioned in the article.

2 In the fourth paragraph of the middle column of the article *Polling....* reprinted overleaf on page 2.63, four recent findings of Reid's organization on 'people's thinking' are mentioned. Give a brief assessment of the likely *inaccuracy* of each finding; in each case, outline the factor(s) that you consider would most obviously affect inaccuracy.

3 In the second article EM9108 *Opinion sampling....* reprinted overleaf on page 2.63 and above, what is said about the *method of sample selecting*?
- Explain briefly the important survey sampling issue(s) involved in the method of sample selecting.

4 Outline the consequences for poll results of the statements in the last paragraph of the left-hand column overleaf on page 2.63: *Polls tend to be a snapshot....what they will do in the future.*

5 In the fifth-last paragraph overleaf on page 2.63 of the article EM9108 *Opinion sampling....*, the type of statement commonly used in media reports of poll results is given: *This poll is considered accurate within four percentage points 19 times out of 20.* Explain carefully but concisely the sense in which the word *accurate* is used in this statement.
- What *mis*interpretation of the word *accurate* can readily be made by statistically uninformed readers of the statement?

6 Assess critically the description of an approximate 95% confidence interval in the fourth-last paragraph overleaf on page 2.63: *The well-worn phrase is merely....fairly close together.*

7 In the second-last paragraph overleaf on page 2.63, the phrase *....accurate within four percentage points....* is used.
- Find the approximate sample size that corresponds to this margin of error in a poll; set out your calculations and assumption(s) clearly.
- Explain briefly whether it would be correct to say instead about a poll result: *....accurate within four percent.....*

8 Referring to the information in the last paragraph overleaf on page 2.63 and the first paragraph above, assume that the proportion of Canadians who approve of the Prime Minister's performance *has not changed* between the two polls. Find the approximate probability of observing an increase in approval of 6 percentage points or larger, assuming successively in each poll samples sizes of 100, 500, 1,000, 1,500 and 2,000.
- Comment briefly on the statistical issue(s) illustrated by your results for the five (increasing) sample sizes.

9 For the article EM9108 *Opinion sampling....* reprinted overleaf on page 2.63 and above, list in point form the types or sources of *non*-sample errors in polls that are mentioned; identify explicitly the paragraph of the article you refer to in each case. When completed, compare your answer with that to Question 1 above.
- What do you conclude about the relative importance of sample error *versus* non-sample errors in terms of their likely effect on the limitations on Answers from sample surveys, particularly those involving people's responses to a questionnaire?

The two newspaper articles EM9107 and EM9108 reprinted in this Figure 2.6a are also used in Figure 8.13a of the STAT 220 Course Materials.