

Are leaders born, or made?

Genes carry part of answer

■ While heredity does bear leadership traits, new research suggests, other factors play role.

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If you're thinking about breaking from your spot in the food chain and taking on the mantle of leadership, consider this: Your chances of success might be influenced in no small part by those little strands of DNA you've been carting around.

Social scientists have struggled for more than a century with whether our personalities are born or made. But two decades' worth of studies on identical twins suggest our genes play a remarkable role.

Shyness, spirituality, intelligence, traditionalism, aggression, the willingness to yield to authority, the ability to enjoy a concert — all have shown genetic influence.

Researchers call this heritability — the degree to which behavioral variations within a population can be accounted for by genes. And they are finding heritability all over the map of personality.

"I would be hard-pressed to name any personality characteristic that hasn't been found to be heritable," said Andrew Johnson, a psychology instructor at the University of Western Ontario and co-investigator of a study on the connection between genetics and leadership style.

Johnson's research, published last year in the journal *Twin Research*, found a significant genetic influence on leadership.

"It would be premature to say there is a leadership gene," Johnson said. "It almost certainly is a cooperative effort among many genes."

Eventually, researchers might be able to determine exactly what those genes are, where they are located and what they do. At the same time, they would get a sense of the role our environment plays, leading to improved leadership training. Genetic research may also help explain why leadership skills seem to be in such short supply.

The birth of eugenics

Science has attempted to draw a link between heredity and leadership since, at least 1869, when Sir Francis Galton speculated about the link in his book *Hereditary Genius*.

Figuring "great men" occurred at a rate of 1 in 4,000 people, Galton examined the pedigrees of 100 of them and concluded family history played such a large role that their "greatness" must indeed be genetic.

While his half-cousin Charles Darwin was developing his theory of natural selection and evolution, Galton hatched a science of improving the human race through artificial selection. Called eugenics, it eventually was used to blame social ills on the perceived genetic traits of entire groups of people. Under Adolf Hitler, it was used to justify the murder of millions.

By 1972, the study of inherited behavior was so frowned upon that 50 pro-genetic psychologists published a letter in *Psychology Today* to complain that researchers probing the link had been vilified at some top U.S. universities.

Their science began to win redemption with the work of University of Minnesota psychologist Thomas Bouchard, who in the late '70s began studying how identical twins separated at birth could share a striking number of traits. Because identical twins are genetically alike, Bouchard and others began estimating the influence heredity had in their formation.

The observation of one set of twins suggested Bouchard was onto something big: Both Jim Springer and Jim Lewis drove Chevrolets, chain-smoked Salems, liked stock-car racing, hated baseball, married and divorced women named Linda, took impromptu vacations on Florida's Gulf Coast, owned dogs named Toy, enjoyed woodworking on corner benches in their basements, and bit their nails compulsively. They had spent their first 37 years apart.

By comparing psychological data from identical twins with data from fraternal twins, who share about half their genes, the Minnesota researchers could extrapolate percentages for how much certain traits are heritable.

In a 1994 study, Bouchard and Richard Arvey found significant genetic associations with traits often tied to leadership. Among them: dominance, social presence, responsibility, tolerance, achievement via conformity and flexibility.

To be sure, the researchers caution that genes act only as an influence. If one-half of variations in intelligence among groups of people can be because of genes, they note, the other half is environmental.

"Furthermore, if we change the environmental background, then the proportion of variation that is due to genetics can change," said Sean O'Donnell, assistant professor of psychology at the University of Washington. "It can go up and

down."

In other words, DNA is not destiny.

"It doesn't seem to have much predictive value for how you will do in the world," said William Wright, author of *Born That Way: Genes, Behavior, Personality* (Knopf, 1998).

Moreover, different situations call for different types of leaders with different palettes of skills. What worked for Gen. George Patton wouldn't have worked for Mahatma Gandhi.

Even intelligence, arguably the first requirement of leadership, can go only so far.

Intelligence can be wasted in a highly stressful situation, where the mind can get muddled. Under pressure, the mind can more easily process the less conscious, automatic responses of "overlearned behavior," which is acquired through repeated experience, said Fred Fiedler, a professor emeritus at the University of Washington.

"When you think about some-

thing you've overlearned, your performance goes down," he said. "If you're dancing and you think about your feet, your partner's going to get sore toes."

Intelligence can have other pitfalls as well, said Catherine Fitzgerald, an organizational psychologist and co-author of a book on leadership and personality types. Better-than-average intelligence helps the trains run on time, but a leader who is much smarter than the troops can fail to appreciate their talents.

"If you had Bill Gates supervising factory workers, he could be terrible at it," she said.

Other potential leadership traits are also open to debate. Self-worth may be key, Fitzgerald said, but the insecure Richard Nixon still got ahead. Good mental health is nice, but numerous leaders prove it is not essential.

"Every trait you come up with someone could come up with a prominent leader that didn't have it," Fitzgerald said.