

# The Science Behind Secrets

July 01, 2006

In the latest season of *The Sopranos*, the character Vito Spatafore, a mob captain in Tony Soprano's crew, takes a gun to a remote motel, giving the impression he might kill himself. The reason for this impression is that Vito, long known to regular viewers as a closet homosexual, has been spotted at a gay club in full Village People regalia. Vito flees to New Hampshire, visibly shaken, while his colleagues decide whether he can live on the lam or has to die. (Allowing him to return unscathed would be an affront to their machismo; plus Vito's construction staff will no longer work for him.) In New Hampshire's more accepting environs — where, as Vito sees, a gay couple is only teased for ordering the same breakfast — he begins to believe in a world where he, and his secret, can coexist in full disclosure.

In the context of behavioral research on secrets, the portrait of Vito is remarkably accurate, which is not surprising considering the show's frequent invocation of Freudian theory. (In an earlier season, Tony tells his therapist of a dream where ducks, which represent his controlling mother, fly away with his genitalia.) The power of openness is one such theory that has, in the past two decades, earned laboratory validity. "Freud's Fundamental Rule of Psychoanalysis was for patients to be completely open with a therapist no matter how silly or embarrassing the thought," says Anita Kelly, a researcher at the University of Notre Dame who published one of the first books on the formal study of secrets, *The Psychology of Secrets*, in 2002.

Only since the late 1980s and early 1990s have researchers like Daniel Wegner and James Pennebaker put Freud through the empirical ringer and begun to understand the science behind secrets. "The Freudian way of thinking about things was, he assumed suppression took place and looked at what was happening afterwards," says Wegner, a psychologist at Harvard. "The insight we had was, let's not wait until after the fact and assume it occurred, let's get people to try to do it and see what happened. That turned out to be useful insight; it opened this up to experimental research. It became a lab science instead of an after-the-fact interpretation of peoples' lives."

For Wegner, an interest in secrets began with a white bear. In Russian folklore attributed to Dostoevsky,

Tolstoy, or sometimes both, a man tells his younger brother to sit in the corner and not think of a white bear, only to find later that the sibling can think of nothing else. If a meaningless white bear can arouse such frustration, imagine the crippling psychological effects of trying not to think of something with actual importance when the situation requires silence — running into the wife of a friend who has a mistress, being on a jury and having to disregard a stunning fact, or hiding homosexuality in a room full of whack-happy wiseguys.

So in 1987, Wegner, who at that time was at Trinity University, published a paper in the *Journal of Personality and Social Psychology* discussing what happens when research subjects confront the white bear in a laboratory. In the study, subjects entered a room alone with a tape recorder and reported everything that came to mind in a five-minute span. Before the experiment, Wegner told some subjects to think of anything except a white bear, and told others to try to think of a white bear. Afterwards, the subjects switched roles. Any time a subject mentioned, or merely thought of, a white bear, he or she had to ring a bell inside the room.

It was not quite Big Ben at noon, but those who suppressed the white bear rang the bell once a minute — more often than subjects who were free to express the thought. More remarkably, Wegner found what he called the “rebound effect”: When a subject was released from suppression and told to express a hidden thought, it poured out with greater frequency than if it had been mentionable from the start. (Think fresh gossip.) He also found evidence for an insight called “negative cuing.” The idea is that a person trying to ditch a thought will look around for something to displace it — first at the ceiling fan, then a candle, then a remote control. Soon the mind forms a latent bond between the unwanted thought and the surrounding items, so that everything now reminds the person of what he is trying to forget, exacerbating the original frustration.

“People will tend to misread the return of unwanted thoughts,” Wegner said recently. “We don’t realize that in keeping it secret we’ve created an obsession in a jar.” Wegner told the story of a suicidal student who once called him for help. Desperate to keep her on the phone, but lacking any clinical training, Wegner mentioned the white bear study. Slowly the student realized she had perpetuated a potentially fleeting thought by trying to avoid it. “She got so twisted up in the fact that she couldn’t stop thinking of killing herself, that she was making it come back to mind. She was misreading this as, there’s some part of me that wants to do it. What she really wanted was to get rid of the thought.”

One method of diverging attention from an unwanted thought, says Wegner, is to focus on a single distraction from the white bear, like a red Volkswagen, an idea that he tested successfully in later experiments. The concern with this technique, which Freud first laid out, is that a person could become obsessed with an arbitrary item, planting the seeds for abnormal behavior. In a later experiment, published in 1994 in the same journal, Wegner found more evidence that secrets lead to strange obsession. He placed four subjects who had never met around a table, split them into two male-female teams, and told them to play a card game. One team was instructed to play footsie without letting the other team know. At the end of the experiment, the secret footsie-players felt such a heightened attraction toward one another that the experimenters made them leave through separate doors, for ethical reasons. “We can end up being in a relationship we don’t want, or interested in things that aren’t at all important, because we had to keep them quiet,” Wegner said, “and it ends up growing.”

Live Free or Die

The logical opposite of an unhealthy obsession based on secrets is a healthy result from disclosing such secrets. This healing aspect of revelation is where Wegner's work connects with James Pennebaker's. In the late 1970s, Pennebaker was part of a research team that found, via survey, that people who had a traumatic sexual experience before age 17 were more likely to have health problems as they got older. Pennebaker looked further and found that the majority of these people had kept the trauma hidden, and in 1984 he began the first of many studies on the effects of revealing previously undisclosed secrets.

In most of Pennebaker's experiments, subjects visited a lab for three or four consecutive days, each time writing about traumatic experiences for 15 or 20 minutes. In the first five years, hundreds of people poured their secrets onto the page. A college girl who knew her father was seeing his secretary; a concentration camp survivor who had seen babies tossed from a second-floor orphanage window; a Vietnam veteran who once shot a female fighter in the leg, had sex with her, then cut her throat. By the end of the experiment, many participants felt such intense release that their handwriting became freer and loopier. In one study of 50 students, those who revealed both a secret and their feelings visited the health center significantly fewer times in the ensuing six months than other students who had written about a generic topic, or those who had only revealed the secret and not the emotions surrounding it.

The work led to many papers showing evidence that divulging a secret, which can mean anything from telling someone to writing it on a piece of paper that is later burned, is correlated with tangible health improvements, both physical and mental. People hiding traumatic secrets showed more incidents of hypertension, influenza, even cancer, while those who wrote about their secrets showed, through blood tests, enhanced immune systems. In some cases, T-cell counts in AIDS patients increased. In another test, Pennebaker showed that writing about trauma actually unclogs the brain. Using an electroencephalogram, an instrument that measures brain waves through electrodes attached to the scalp, he found that the right and left brains communicated more frequently in subjects who disclosed traumas.

(It should be noted that the type of secrets discussed in this article are personal secrets—experiences a person chooses not to discuss with others. They can be positive, in the case of hiding a birthday cake, or negative, in the case of hiding a mistress. Secrets that could be considered “non-personal,” for example, information concealed as part of a job, were not specifically addressed.)

Exactly why revelation creates such health benefits is a complicated question. “Most people in psychology have been trained to think of a single, parsimonious explanation for an event,” said Pennebaker, who did much of his research at Southern Methodist University before coming to the University of Texas, where he is chair of the psychology department. “Well, welcome to the real world. There are multiple levels of explanation here.” Pennebaker lists a number of reasons for the health improvements. Writing about a secret helps label and organize it, which in turn helps understand features of the secret that had been ignored. Revelation can become habitual in a positive sense, making confrontation normal. Disclosure can reduce rumination and worry, freeing up the mental quagmires that hindered social relationships. People become better listeners. They even become better sleepers. “The fact is that all of us occasionally are dealing with experiences that are hard to talk about,” Pennebaker said. “Getting up and putting experiences into words has a powerful effect.”

At the end of a recent *Sopranos* episode, Vito looks most content after seeing a New Hampshire license plate, with its state motto: “Live free or die.” Pennebaker's research may add a new level of truth to that phrase.

### Little Machiavellis

In the early 1990s, it was not unusual for 3-year-old Jeremy Peskin to want a cookie. His mother, Joan, used to hide them in the high cupboards of their home in Toronto; when she left, Jeremy would climb up and sneak a few. One day, Jeremy had a problem: He wanted a cookie, but his mother was in the kitchen. “He said to me, ‘Go out of the kitchen, because I want to take a cookie,’ ” Joan recalled recently. Unfortunately for Jeremy, Joan Peskin was a doctorate student in psychology at the time, and smart enough to see through the ruse. Fortunately for developmental researchers, Peskin’s experience led her to study when children first develop the capacity for secrets.

What interested Peskin, now a professor at the University of Toronto, was Jeremy’s inability to separate his mother’s physical presence from her mental state. If she was out of the room, he would be able to take a cookie, whether or not his mother knew that he intended to take a cookie. Peskin took this insight to the laboratory — in this case, local day-care centers — where she tried to get children age three, four, and five to conceal a secret. She showed the children two types of stickers. The first, a gaudy, glittery sticker, aroused many a tiny smile; the second, a drab, beige sticker of an angel, was disliked. Then she introduced a mean puppet and explained that this puppet would take whatever sticker the children wanted most. When the puppet asked 4- and 5-year-olds which sticker they wanted, most of the children either lied or would not tell. The 3-year-olds almost always blurted out their preference, even when the scenario was repeated several times, she found in the study, which was published in *Developmental Psychology* in 1992. Often the 3-year-olds grabbed at the shiny sticker as the puppet took it away, showing a proper understanding of the situation but an inability to prevent it via secretive means.

The finding goes beyond secrets; 4 has become the age when psychologists think children develop the ability to understand distinct but related inner and outer worlds. “When I teach it I put a kid on the overhead with a thought bubble inside,” Peskin said. “When they could think of someone else’s mental state — say, ignorance, somebody not knowing something — that influences their social world.” In a follow-up study published in *Social Development* in 2003, Peskin found again that 3-year-olds were more likely than 4- or 5-year-olds to reveal the location of a surprise birthday cake to a hungry research confederate. “When a child is able to keep a secret,” Peskin says, “parents should take it as, that’s great, this is normal development. They aren’t going to be little Machiavellis. This is normal brain development.”

### Confidence in Confidants

Soon after Mark Felt revealed himself as Deep Throat, the anonymous source who guided Bob Woodward during the Watergate scandal, Anita Kelly’s phone began to ring. “One morning I had 10 messages from different news groups,” she recalled recently. “They wanted me to say that secrecy’s a bad thing, and I’d say, look, there’s no evidence. This guy’s in his early 90s, and has seemed to have a healthy life.”

When preparing *The Psychology of Secrets*, Kelly re-examined the consequences and benefits of secret-keeping, and began to believe that while divulging secrets improves health, concealing them does not necessarily cause physical problems. “I couldn’t find any evidence that keeping a secret makes a person sick,” Kelly said. “There is evidence that by writing about held-back information someone will get health benefits. Someone keeping a secret would miss out on those benefits. It’s not the same as saying if you keep a secret you’re going to get sick.”

Her latest work, in press at the *Journal of Personality*, challenged the notion that secret-keeping can cause sickness. Instead of merely looking at instances of sickness nine weeks after disclosure, Kelly and co-author Jonathan Yip adjusted their measurements for initial levels of health. They found, quite simply, that secretive people also tend to be sick people, both now and two months down the line.

“It doesn’t look like the process of keeping the secret made them sick,” she said. High “self-concealers,” as Kelly calls them, tend to be more depressed, anxious, and shy, and have more aches and pains by nature, perhaps suggesting some natural link between being secretive and being vulnerable to illness. “I don’t think it’s much of a stretch to say that being secretive could be linked to being symptomatic at a biological level.”

This conclusion came gradually. In the mid-1990s, following Pennebaker’s line of research that had really opened up the field, Kelly focused on the health effects of revealing and concealing secrets. The research clearly showed links between secrets and illness. In a review of the field for *Current Directions in Psychological Science* in 1999, Kelly notes some of these health correlations: cases in which breast cancer patients who talked about their concealed emotions survived almost twice as long as those who did not; students who wrote about private traumatic events showed higher antibody levels four and six months after a Hepatitis B vaccination; and gay men who concealed their sexuality had a higher rate of cancer and infectious disease.

But in 1998 she did a study asking patients about their relationships with their therapists. She found that 40 percent of them were keeping a secret, but generally felt no stress as a result. Kelly began to believe that some secrets can be kept successfully, and that, in some scenarios, disclosing a secret could cause more problems than it solves. Psychologists, she felt, were not paying enough attention to the situations in which disclosure should occur — only that it did. “The essence of the problem with revealing personal information is that revealers may come to see themselves in undesirable ways if others know their stigmatizing secrets,” she wrote in the 1999 paper.

John Caughlin, a professor of communication at the University of Illinois at Urbana-Champaign who has studied secrets, agrees that sometimes openness is not the best policy. “People are so accustomed to saying an open relationship is a good one, that if they have secrets it can make them feel that something’s wrong,” he said recently. In 2005, Caughlin published a paper in *Personal Relationships* suggesting that people have a poor ability to forecast how they will feel after revealing a secret, and how another person will respond to hearing it. “I’m not touting that people should keep a lot of secrets,” he said, “but I don’t think people should assume it’s bad, and I think they do.” In her new book, *Anatomy of a Secret Life*, published in April, Gail Saltz, a professor of psychiatry at Cornell Medical School, referred to secrets as “benign” or “malignant,” depending on the scenario. “In teenagers, having secret identities is normal, healthy separation from parents and needs to go on,” said Saltz recently.

To address this concern, Kelly has focused her recent work on the role of confidants in the process of disclosure. She created a simple diagram advising self-concealers when they should, and when they should not, reveal a secret. On one hand, if the secret does not cause mental or physical stress, it should be kept, to provide a sense of personal boundary and avoid unnecessary social conflict. If it does cause anguish, the secret-keeper must then evaluate whether he or she has a worthy confidant, someone willing to work toward a cathartic insight. When such a confidant is not available, the person should write down his or her thoughts and feelings. “The world changes when you tell someone who knows all your

friends,” said Kelly, who experienced this change firsthand 15 years back, when she shared with a colleague something “very personal and embarrassing,” as she called it, and then found her secret floating among her colleagues. “You have to think, what are the implications with my reputation,” she said. “It’s more complicated once you have to reveal to someone.” Particularly if that someone is Tony Soprano.