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Expressive Writing in Psychological Science

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Abstract
The 1997 *Psychological Science* paper "Writing About Emotional Experiences as a Therapeutic Process" summarized the results of several expressive writing studies. Since the publication of the first expressive writing study in 1986, a number of discoveries had emerged that had both theoretical and clinical implications. The scientific and personal backstories of the research are discussed. Finally, several possible reasons are advanced to explain why this particular paper has been cited as much as it has.

Keywords
creativity/imagination, history, treatment, trauma, language/communication, emotion/affect, expressive writing, LIWC

The paper I published in 1997 (Pennebaker, 1997) was a review of findings and explanations surrounding expressive writing—a phenomenon that I had first discovered 11 years earlier. The article summarized the results of about 20 studies that examined the effects of expressive writing on physical health and/or biological outcomes. The ultimate goal of the paper was to disentangle the underlying explanations of the writing-health link.

The article grew out of a small workshop put together by Lisa Onken and Jack Blaine (1997) at the National Institute on Drug Abuse dealing with behavioral therapies. Each of the 14 workshop participants were invited to submit a brief article summarizing their research to a special issue of *Psychological Science*. At the time, it never occurred to me that the paper would be so highly cited. In many ways, the published article is a telling story of the research, my career at the time, and the ways citations work.

The Backstory of the Expressive Writing Research

In the early 1980s, my research focused on the nature of physical symptoms (Pennebaker, 1982). As I was finishing a series of studies, I conducted a speculative survey on some of the developmental, personality, and situational factors that might be related to people's reports of symptoms and sensations. The survey included at least 80 questions and went out to about 800 students. As it turned out, a pivotal question was, "Prior to the age of 17, did you experience a traumatic sexual experience?" One of my undergraduate students suggested the question for no particular reason. It just sounded interesting. The responses to that question changed my career. About 15% of the students answered "yes." Those responding in the affirmative also reported much higher rates of all symptoms and also reported going to the doctor more than those answering "no." Interviews and subsequent studies revealed that the issue was not having a sexual trauma *per se*; rather, people who had had any kind of trauma but who had kept it secret were those most likely to have a variety of health problems.

What was it about secrets that were so toxic? In talking with colleagues in clinical psychology and other disciplines, I developed a working theory that keeping a secret was a form of active inhibition. Concealing or holding back powerful emotions, thoughts, and behaviors, I reasoned, was itself stressful. Further, long-term, low-level stress could influence immune function and

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physical health. Even today, I love the theory—even though I never found a shred of evidence that supported it. The idea did, however, guide me to the expressive writing paradigm. [Note to aspiring scientists: Theories are grand but never take them too seriously. Their importance is in guiding research. If your data do not support your theory, trust the data more than your theory.]

If keeping a secret about a trauma was unhealthy, it made sense that having people reveal the secret should improve health. As a social psychologist, I was concerned with having people talk about their secrets to another person because of the complicated social dynamics that would likely result. Consequently, I decided to have participants write about the most traumatic experience of their lives or, for those in a control condition, write about superficial topics.

The first expressive writing experiment was run in the Fall of 1983 with the help of Sandy Beall, a new graduate student. In retrospect, the study was horribly underpowered. Nevertheless, we discovered that students randomly assigned to write about traumas for 4 days, 15 minutes a day, ended up going to the student health center over the next 6 months at about half the rate of students in the control condition (Pennebaker & Beall, 1986). When the paper was published, it received a great deal of interest from people in clinical and social psychology. Two years later, a replication was conducted with Jan Kiecolt-Glaser and Ron Glaser (Pennebaker, Kiecolt-Glaser, & Glaser, 1988) finding both reductions in health center visits and immune changes that were theoretically consistent with better health.

Over the next several years, there were replications and failures to replicate in other labs, with occasional criticisms of both the methodology and theory. By the mid-1990s, a consistent literature was beginning to emerge in health, clinical, and social psychology that validated the effectiveness of expressive writing in improving health. The underlying explanation of the effect was still debated—and continues to be debated today. By 1998, the first meta-analysis was published, and over the years, there have now been at least 4 to 5 additional meta-analyses on the writing phenomenon (see Baikie & Wilhelm, 2005; Frattaroli, 2006; Frisina, Borod, & Lepore, 2004; Harris, 2006; Smyth, 1998; Travagin, Margola, & Revenson, 2015). As a side note, the overall effect size of expressive writing on health across over 100 studies averages about .16 (Cohen's d). For a discussion of the many issues surrounding writing, see Pennebaker and Smyth (2016).

My primary goal for the 1997 *Psychological Science* paper was to provide an update on expressive writing. Looking over the studies at the time, it was important for both researchers and clinicians to have a sense of what writing parameters had and had not worked in earlier studies. In addition to the boundary conditions of writing, I also provided some educated guesses about what theoretical factors were most promising in ultimately understanding why it worked. Most significant for the ultimate future of expressive writing was moving away from an inhibitory model to a cognitive model.

The Personal Backstory

It has been a little over 20 years since the *Psychological Science* paper was written. Looking back at the paper now, there were other forces at work in my own life that spilled into the paper that ultimately made it more interesting for the reader. By the time the paper was published, I had been immersed in expressive writing for about 14 years. The research had been fascinating and meaningful. I was receiving a great deal of notoriety, landing grants, and working with people all over the world on a puzzle with important practical and theoretical implications. I also had the satisfaction of receiving frequent letters and emails from people whose lives had changed because of their using expressive writing.

In the middle of all this, I became fascinated by the ways people used words while writing. Was it possible to write a computer program that could analyze people's writing samples and predict who would show health improvements? The answer was yes. But having developed the original text analysis program, Linguistic Inquiry and Word Count, or LIWC, with my student Martha Francis (Pennebaker, Booth, Boyd, & Francis, 2015), it became clear to me that people revealed parts of their personalities, social behaviors, thinking styles, and social connections through their word use.

The language project was beginning to pull me away from expressive writing. At the time of writing the 1997 paper, I knew I was ready for a new research chapter in my life. Consequently, the last part of the expressive writing article discussed LIWC and its great promise for understanding both writing and mental health.

The Paper Itself: A Case Study in Citation Counts

The fact that the expressive writing article has been cited so much was a surprise to me. There are several more thoughtful papers, chapters, and books over the years on expressive writing that have not been cited nor read nearly as much. I attribute the popularity of this paper to several factors:

- ***The length and style of the paper itself***. Most scientific publications in psychology are dense, long, and written for a very narrow audience. The expressive writing paper was written for both researchers and clinicians. The article was brief with a series of questions and answers that a nonexpert could understand and apply.
- ***The cultural shift toward translational research***. In the late 1990s, granting agencies began emphasizing the importance of research topics that had clear societal payoffs. Any intervention that could boost physical or mental health was looked on more favorably than more esoteric theoretical measures such as reaction times or self-reports. That expressive writing became popular at the time allowed many labs to try the method out relatively quickly and painlessly.
- ***The imprimatur of* Psychological Science *on a clinically relevant topic***. The wars between the American Psychological Association (APA) and the American Psychological Society (APS) were, at their heart, between clinical practice and the science of psychology. In the early years of APS, the vast majority of papers were cognitive, biological, and, if sterile enough, social psychological. The journal *Psychological Science* had the reputation of being a highly reputable and an emotionally detached publication. That an expressive writing paper was published in the journal undoubtedly advanced the stature of the expressive writing paradigm.
- ***The psychology of citation: Quickly referencing an entire field without getting bogged down in the details***. Think about how you write a paper and make decisions about what articles you should cite. Too many citations can be burdensome for the reader; with too few, you risk not pointing to a research area that is somewhat related to your topic. For those situations, many of us seek to find a general article on the topic that has been published in a highly respectable place. The emotional writing paper inadvertently addressed health interventions, expressive writing, natural language processing, clinical processes, inhibition, secrets, and social sharing. One stop shopping for the busy researcher.

Ultimately, the paper has been impactful because the topic is so fundamental to human nature. Why do humans around the world naturally talk to others after they have experienced an emotional upheaval? Why does keeping a dark secret interfere with sleep, health, relationships, and performance at work or school? And why do so many of us feel better after writing or talking about something that has been weighing on us? These are not esoteric or highly technical questions. Rather, they address issues that we all face in our lives.

And this, for me, is the joy of psychology. Most of us spend years in our labs addressing fairly narrow questions that previous studies have raised. Only on rare occasions do we have the freedom to stand back and take stock of our work and tie it to the basic questions of life. Only now, 20 years later, can I begin to appreciate the *Psychological Science* paper that came out of that long-forgotten NIDA conference.

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