

Forming a Story: The Health Benefits of Narrative

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Writing about important personal experiences in an emotional way for as little as 15 minutes over the course of three days brings about improvements in mental and physical health. This finding has been replicated across age, gender, culture, social class, and personality type. Using a text-analysis computer program, it was discovered that those who benefit maximally from writing tend to use a high number of positive-emotion words, a moderate amount of negative-emotion words, and increase their use of cognitive words over the days of writing. These findings suggest that the formation of a narrative is critical and is an indicator of good mental and physical health. Ongoing studies suggest that writing serves the function of organizing complex emotional experiences. Implications for these findings for psychotherapy are briefly discussed. © 1999 John Wiley & Sons, Inc. *J Clin Psychol* 55: 1243-1254, 1999.

The guiding assumption of the present work is that the act of constructing stories is a natural human process that helps individuals to understand their experiences and themselves. This process allows one to organize and remember events in a coherent fashion while integrating thoughts and feelings. In essence, this gives individuals a sense of predictability and control over their lives. Once an experience has structure and meaning, it would follow that the emotional effects of that experience are more manageable. Constructing stories facilitates a sense of resolution, which results in less rumination and eventually allows disturbing experiences to subside gradually from conscious thought. Painful events that are not structured into a narrative format may contribute to the continued experience of negative thoughts and feelings. Indeed, one of the most prevalent reasons why people begin therapy is because they report suffering from emotional distress (Mahoney, 1995). Disclosure is unequivocally at the core of therapy. Psychotherapy usually involves putting together a story that will explain and organize major life events causing distress.

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The area of narrative psychology has long held that it is important for people to make sense of events in their lives by putting them into a story-like format. Gergen and Gergen (1988) use the term self narrative to describe these particular types of stories that help us account for critical events in our lives. The basis for a good self narrative according to Gergen and Gergen is similar to the criteria that are deemed important for a good story in general. Such components include having a guiding reason for which the story is formed (a story goal), including important events that relate to this story goal, and putting the events in a sensible order (Gergen & Gergen, 1987; Gergen & Gergen, 1988). People begin to learn about and master story telling from early childhood. Acquiring the ability to draw causal relationships and form stories according to these principles is a critical task of childhood and helps in the development of a coherent emotional life (Mancuso & Sarbin, 1998). So critical is this skill, mastery of it may have consequences for one's health.

Extensive research has revealed that when people put their emotional upheavals into words, their physical and mental health improves markedly. The first author began work in this area over a decade ago. In the initial studies students were asked to write about their deepest thoughts and feelings about traumatic experiences as part of a laboratory experiment. The mere act of writing about traumatic experiences had striking results. The writing exercise improved their physical health, resulted in better grades, and often changed their lives.

Methodology

The basic technique was straightforward (Pennebaker, 1997). Students were brought into the laboratory and were told that they would be participating in a study wherein they would write about an assigned topic for four consecutive days for 15 minutes each day. They were assured that their writing would be anonymous and that they would not receive any feedback on it. As far as they knew, the purpose of the project was to learn more about writing and psychology. The only rule about the writing assignment was that once they began writing, they were to continue to do so without stopping without regard to spelling, grammar, or sentence structure. Participants were then randomly assigned to either an experimental group or a control group.

Those in the experimental group were asked to spend each session writing about one or more traumatic experiences in their lives. In the words of the experimenter:

For the next four days, I would like for you to write about your very deepest thoughts and feelings about the most traumatic experience of your entire life. In your writing, I'd like you to really let go and explore your very deepest emotions and thoughts. You might tie your topic to your relationships with others, including parents, lovers, friends, or relatives, to your past, your present, or your future, or to who you have been, who you would like to be, or who you are now. You may write about the same general issues or experiences on all days of writing or on different traumas each day. All of your writing will be completely confidential.

Those in the control condition were asked to write about nonemotional topics for 15 minutes on all four days of the study. Examples of their assigned writing topics included describing the laboratory room in which they were seated or their own living room. One group was then encouraged to delve into their emotions and the other was to describe objects and events dispassionately.

The first writing study yielded astounding results (Pennebaker & Beall, 1986). Most striking was that beginning college students immediately took to the task of writing. Those in the experimental condition averaged writing 340 words during each 15-minute

session. Although many cried, the vast majority reported that they found the writing to be extremely valuable and meaningful. Indeed, 98% of the experimental participants said that, if given the choice, they would participate in the study again (Pennebaker, 1997). Most surprising was the nature of the writing itself. The students, who tended to come from upper-middle class backgrounds, described a painful array of tragic and depressing stories. Rape, family violence, suicide attempts, drug problems, and other horrors were common topics. Indeed, approximately half of the people wrote about experiences that any clinician would agree was truly traumatic.

What made this first experiment so compelling, however, were not just the narratives themselves. Rather, we were interested primarily in how the writing exercise influenced physical health. During the school year, we followed the students' illness visits to the university health center in the months before and after the experiment. We discovered that those who had written about their thoughts and feelings drastically reduced their doctor-visit rates after the study compared to our control participants who had written about trivial topics. Confronting traumatic experiences had a salutary effect on physical health.

Results of the Writing Studies

Over the last decade, more than two dozen studies from multiple laboratories around the world have confirmed and extended the basic findings. Some of the general results include:

Benefits are Found Across Different Populations. Writing benefits a variety of groups of individuals beyond undergraduate college students. Positive health and behavioral effects have been found with maximum-security prisoners, medical students, community-based samples of distressed crime victims, arthritis and chronic pain sufferers, men laid off from their jobs, and women who have recently given birth to their first child. These effects have been found in all social classes and major racial/ethnic groups in the United States, and in samples in Mexico City, New Zealand, French-speaking Belgium, and the Netherlands (Spera, Buhrfeind, & Pennebaker, 1994; Richards, Pennebaker, & Beal, 1995; Rimé, 1995; Dominguez et al., 1995; Schoutrop, Lange, Brosschot, & Everaerd, 1996; Petrie, Booth, Pennebaker, Davison, & Thomas, 1995).

There is some evidence that writing may not always work by itself in samples that may have disordered cognitive processing or relatively severe depression. For instance, a recent large-scale study in The Netherlands on recently bereaved older adults failed to find benefits of writing (see Stroebe & Stroebe, 1996). Similarly, in a study conducted in Israel among a group of 14 posttraumatic stress syndrome (PTSD) patients, the half assigned to write and orally expand about their traumas slightly worsened compared to controls. The authors suggest that writing may not benefit PTSD patients in the absence of cognitive- and/or coping-skills training (Gidron, Peri, Connolly, & Shalev, 1996). Further, severe cases of PTSD may be associated with the inability to organize cognitively traumatic experiences despite the continuous ruminating and emotional responses to thoughts of the precipitating traumas.

Impact on the Immune System. Writing influences more than just physician visits. Four different laboratories report that writing produces positive effects on blood markers of immune function. Other studies indicate that writing is associated with lower pain and medication use and, in a sample of students taking professional-level exams such as the Graduate Record Exam, lower levels of depression. Additional experiments have demonstrated that writing is linked to higher grades in college (Pennebaker & Francis, 1996; Cameron & Nicholls, 1998), and faster times to getting new jobs among senior-level

engineers who have been laid off from their jobs (Spera et al., 1994). Several studies have also found that writing or talking about emotional topics influences immune function in beneficial ways, including *t*-helper cell growth (Pennebaker, Kiecolt-Glaser, & Glaser, 1988), antibody response to the Epstein-Barr virus (Esterling, Antoni, Fletcher, Margulies, & Schneiderman, 1994), and antibody response to hepatitis B vaccinations (Petrie et al., 1995).

Short- and Long-Term Mood Effects of Writing. Despite the clear health and behavioral effects, writing about traumatic experiences tends to make people feel more unhappy and distressed in the hours after writing. These emotions, in many ways, can be viewed as appropriate to the topics the individuals are confronting. When questionnaires are administered to participants at least two weeks after the studies, however, experimental volunteers report being as happy or happier than controls. Interestingly, among highly distressed samples, such as the unemployed engineers, writing about losing their jobs produced immediate improvements in moods compared to controls. Emotional state after writing depends on how participants are feeling prior to writing: the better they feel before writing, the worse they feel afterwards and vice versa (See Pennebaker, 1997).

Talking versus Writing. Although most experiments have focused primarily on writing, a few studies have compared writing with talking into a tape recorder. Overall, writing and talking have produced comparable effects. Additional experiments by Edward Murray and his colleagues at the University of Miami suggest that writing about traumatic experiences brings about comparable changes to talking to a psychotherapist—at least among a psychologically healthy sample (Donnelly & Murray, 1991; Murray, Lamin, & Carver, 1989).

Differences as a Function of Personality. There are not strong indications that some personality types benefit more from writing than others. A recent analysis of several writing studies by Joshua Smyth (1998) suggests that men may benefit somewhat more than women may. This effect, however, still must be tested in future studies. Although traditional measures of neuroticism, depression proneness, and extraversion are unrelated to the benefits of writing, a recent experiment by Christensen and Smith (1993) indicates that individuals who are particularly hostile and suspicious benefited more from writing than people who were low in these traits.

The Audience. The effects of the writing are not related to the presumed audience. In most studies, participants turn in their writing samples with the understanding that only the experimenters will examine what they have written. Other experiments, however, have allowed participants to keep their writing samples or, in one Masters thesis by Jeanne Czajka (1987), students wrote on a child's magic pad where their writing was erased as soon as they lifted the plastic sheet on the writing tablet.

Time Parameters. Although the original studies required participants to write on four consecutive days for 15 minutes each day, later studies have varied the number of sessions from one to five days and from 15 minutes to 30 minutes each session. The summary project by Smyth hints that the longer time the study lasts, the better (Smyth, 1998). Again, this effect needs to be examined experimentally.

The Writing Topic. A variety of writing topics produce comparable health benefits. Although the earlier studies asked volunteers to write about traumas, more recent experiments have had new students write about their thoughts and feelings about coming to college or, in the case of the unemployed engineers, about the experience of getting laid off (Spera et al., 1994). Most impressive is a recent study by Greenberg, Wortman, and Stone (1996) wherein previously traumatized students were asked to write about an imaginary trauma rather than something they had experienced directly. Their results indicated that writing about someone else's trauma as though they had lived through it produced health benefits comparable to a separate group who wrote about their own traumas. What

is critical in all of these studies, however, is that people are encouraged to explore their emotions and thoughts no matter what the content might be.

Writing and Social Stigma. Being a member of a stigmatized group can play a profound role in a person's life. How might writing about group membership impact attitudes and behavior? A recent study found that among members of stigmatized groups, writing about being a group member changes one's level of collective self esteem (the sense of self worth one derives from a group membership). People who had a visible stigmatized identity (e.g., Latino, being overweight) benefited more from writing about being a member of the general community (as opposed to writing about being a member of their in-group of others who share that identity). In contrast to this, those with a nonvisible identity (e.g., gay, lesbian, Jewish) benefited more when writing about being a member of the stigmatized group. These two groups stated that it was harder for them to write over the three days, but reported that writing had more long-lasting benefits, and felt less sad and depressed a month later than people who were in the other writing conditions (those with a visible identity who wrote about being a member of a stigmatized group, and those with a nonvisible identity who wrote about being a member of the general community), and relative to the control group (Seagal & Pennebaker, 1997). The implications for these findings are numerous. One could argue tentatively that therapists working with clients who are members of stigmatized groups might decide to focus on a person's commonalities versus differences with the larger community, depending on the type of stigma. Writing may also impact prejudicial attitudes and behaviors, although this notion has not been tested empirically to our knowledge.

What Are The Underlying Mechanisms Responsible For These Benefits?

Why does writing or talking about emotional experiences influence health? More recent efforts have been aimed at understanding the precise mechanisms underlying these changes. This has been the central question that has guided our research over the last several years. Three general research directions have provided a number of answers.

One possibility is that by writing about emotional experiences, people simply become more health conscious and change their behaviors accordingly. Very little evidence supports this. As indicated by the Smyth (1998) meta-analysis, most experiments find that after writing about emotional topics, participants continue to smoke, exercise, diet, and socialize in ways similar to those in the control conditions. The one exception may be alcohol intake. In two studies with adults, people who wrote about emotional topics later reported a drop in the amount of alcohol they were drinking each day. This pattern has not held up for college students or prisoners.

A second possible explanation for the value of writing is that it allows people to express themselves. If the driving process is self expression, one could argue that both verbal and nonverbal forms of expression would provide comparable benefits. Dance, music, and art therapists, for example, assume that the expression of emotion through nonverbal means is therapeutic. It should be noted, however, that traditional research on catharsis or the venting of emotions has failed to support the clinical value of emotional expression in the absence of cognitive processing (Lewis & Bucher, 1992).

In our own lab, we have attempted to determine the degree to which language is necessary for physical and mental health improvement. A recent experiment by Krantz and Pennebaker (1995) sought to learn if the disclosure of a trauma through dance or bodily movement would bring about health improvements in ways comparable to writing. In the study, students were asked to express a traumatic experience using bodily movement, to express an experience using movement and then write about it, or to exercise in a prescribed manner for 3 days, 10 minutes per day. Whereas the two movement-

expression groups reported that they felt happier and mentally healthier in the months after the study, only the movement plus write group evidenced significant improvements in physical health and grade-point average. The mere expression of a trauma is not sufficient to bring about long-term physiological changes. Health gains appear to require translating experiences into language.

A third broad explanation for the effects of writing is that the act of converting emotions and images into words changes the way the person organizes and thinks about the trauma. Further, part of the distress caused by the trauma lies not just in the events but in the person's emotional reactions to them. By integrating thoughts and feelings, the person then can construct more easily a coherent narrative of the experience. Once formed, the event can now be summarized, stored, and forgotten more efficiently. Tests of this general idea are still in progress. However, preliminary findings are encouraging.

One of our first systematic approaches to understanding the potential cognitive benefits of writing was to examine the essays themselves. Independent raters initially compared the writing samples of people whose health subsequently improved after the experiment with those whose health remained unchanged. Essays from those who improved were judged to be more self reflective, emotionally open, and thoughtful. Not being content with clinical evaluations, we decided to subject the essays to computer-text analyses to learn if language use could predict improvements in health among people who had written about emotional topics.

No standard computer programs existed that specifically measured emotional and cognitive categories of word usage. The first author and several colleagues spent three years developing a computer program called Linguistic Inquiry and Word Count (LIWC) that analyzed essays in text format (Pennebaker & Francis, 1996). LIWC was developed by having groups of judges evaluate the degree to which over 2,000 words or word stems were related to each of several dozen categories. Although there are now over 70 word categories in the most recent version of the LIWC program (actually SLIWC—the Second LIWC), only four were of primary interest to us. Two of the categories were emotion dimensions and the other two were cognitive. The emotion categories included negative-emotion words (e.g., sad, angry) and positive-emotion words (e.g., happy, laugh). Although using this methodology to assess emotional expression is not without flaws, it does provide a systematic index of the extent to which subjects use the two categories of emotion words. The two cognitive categories, causal and insight words, were intended to capture the degree to which participants were thinking actively in their writing. The causal words (e.g., because, reason) were included because they implied people were attempting to put together causes and reasons for the events and emotions that they were describing. The insight words (e.g., understand, realize) reflected the degree to which individuals were referring specifically to cognitive processes associated with thinking. For each essay that a person wrote, we were able to quickly compute the percentage of total words that these and other linguistic categories represented.

The LIWC program allowed us to go back to previous writing studies and link word usage among individuals in the experimental conditions with various health and behavioral outcomes. To date, the most extensive reanalysis of data concerns 6 writing studies: two studies involving college students writing about traumas where blood-immune measures were collected, two studies where first-year college students wrote about their deepest thoughts and feelings about coming to college, one study by maximum-security prisoners in a state penitentiary, and one study using professionals who had unexpectedly been laid off from their jobs after over 20 years of employment.

Analyzing the use of negative- and positive-emotion words, two important findings were revealed (Pennebaker, Mayne, & Francis, 1997). First, the more that people used positive-emotion words, the more their health improved. Negative-emotion word use also

predicted health changes but in an unexpected way. Individuals who used a moderate number of negative emotions in their writing about upsetting topics evidenced the greatest drops in physician visits in the months after writing. That is, those people who used a very high rate of negative-emotion words and those who used very few were the most likely to have continuing health problems after participating in the study. Further, the use of the two types of emotion words was uncorrelated, and the rates of usage did not tend to change appreciably over the days of writing. In other words, those people who tended to use many words in the positive category and a moderate amount in the negative category had the greatest health improvements. In many ways, these findings are consistent with other literatures. Individuals who tend to use very few negative-emotion words are undoubtedly most likely to be characterized as repressive copers—people who Weinberger, Schwartz, and Davidson (1979) have defined as poor at being able to identify and label their emotional states. Those who overuse negative-emotion words may well be the classic high neurotic or, high Negative-Affect (Watson & Clark, 1984) individuals. These individuals are people who ponder their negative emotions in exhaustive detail and who may simply be in a recursive loop of complaining without attaining closure. Indeed, this may be exacerbated by the inability of these individuals to develop a story or narrative. A high rate of positive-emotion word use coupled with some negative-emotion words suggests there is an acknowledgment of problems with a concomitant sense of optimism.

Although the findings concerning emotion words use was intriguing, the results surrounding the cognitive word categories were even more robust. Recall that in our studies, people wrote for 3–5 days, 15–30 minutes per day. As they wrote, they gradually changed what they said and how they said it. The LIWC analyses showed strong and consistent effects for changes in insight and causal words over the course of writing. Specifically, people whose health improved, who got higher grades, and who found jobs after writing went from using relatively few causal and insight words to using a high rate of them by the last day of writing. In reading the essays of people who showed this pattern of language use, it became apparent that they were constructing a story over time. Building a narrative, then, seemed to be critical in reaching understanding. Interestingly, those people who started the study with a coherent story that explained some past experience did not benefit from writing (see Mahoney, 1995; Meichenbaum & Fong, 1993; Gergen & Gergen, 1988).

These findings are consistent with current views on narrative and psychotherapy in suggesting that it is critical for the client to confront their anxieties and problems by creating a story to explain and understand past and current life concerns. The story can be in the form of an autobiography or even a third-person narrative. Interestingly, our data indicate that merely having a story may not be sufficient to assure good health. A story that may have been constructed when the person was young or in the midst of a trauma may be insufficient later in life when new information is discovered or broader perspectives are adopted. In our studies, as in narrative therapies, the act of constructing the stories is associated with mental and physical health improvement. A constructed story, then, is a type of knowledge that helps to organize the emotional effects of an experience as well as the experience itself.

Why Do People Form Stories About Their Experiences?

One basic question in our research concerns why people tell stories. Where does this motivation to write come from? Part of it may arise from conflicted childhoods, adolescent tragedies, or other unexpected turns in life.

Within the psychological literature, there is a broadly accepted belief that humans—and perhaps most organisms with at least a moderately complex nervous system—seek to understand the worlds around them. If we feel pain or hear a strange noise, we try to learn the cause of it. Once we understand how and why an event has occurred, we are prepared more to deal with it should it happen again. By definition, then, we will be far more motivated to learn about events that have unwanted or, on the contrary, very desired consequences than about common or predictable events that don't affect us. Similarly, events with large and significant personal consequences will be examined to a greater degree than relatively superficial events (see Kohler, 1947; Kelley, 1967).

Over the course of a normal day, we are constantly surveying and analyzing our worlds. The person in the car behind us honks his horn while we sit at a red light. Automatically, we ask questions such as, "Is the person honking at me?" "Is the light green?" "Do I know this person?" As soon as we come to some understanding as to the meaning of the horn honk, we adjust our behavior (we go if the light is green, wave if it is a friend) or return to our private world if the honk was not relevant to us. As soon as this brief episode is over, we will probably put it out of our mind forever.

Whereas the search for the meaning of a honking horn is a brief, relatively automatic process, major life events are far more difficult to comprehend. If our lover leaves us, a close friend dies, or we face a significant career setback, we generally mull over the event in our mind trying to understand the causes and consequences of it. To complicate matters, a major life event usually consists of many events and experiences. If our lover has gone, it will affect our relationships with others, our finances, how we view ourselves, and even our daily eating, sleeping, talking, and sexual habits. In trying to understand this experience, we will attempt naturally to ask ourselves why this happened and how we can cope with it. To the degree that the event is unresolved, we will think, dream, obsess, and talk about it for days, weeks, or years.

Exactly what constitutes meaning or understanding is far less clear. Philosophers, psychologists, poets, and novelists have noted that a single event can have completely different meaning for different individuals. Following the death of a very close friend, some may find meaning in religion ("God has a plan"), others in understanding the cause of the death ("He smoked, what can you expect?"), yet others in exploring the implications for their own lives ("He would have wanted me to change my life."). Simple analyses relying on a single causal explanation may be useful in explaining some aspects of the death but probably will not be helpful in all aspects. We may have a straightforward explanation on why the friend died, but we still must deal with a change in our friendship network, our daily routine of talking with our friend, etc. The beauty of a narrative is that it allows us to tie all of the changes in our life into a broad comprehensive story. That is, in the same story we can talk both about the cause of the event and its many implications. Much as in any story there can be overarching themes, plots, and subplots—many of them arranged logically and/or hierarchically. Through this process, the many facets of the presumed single event are organized into a more coherent whole.

Drawing on research on conversation and language, Leslie Clark (1993) points out that conveying a story to another person requires that the speech act be coherent. Linguistic coherence subsumes several characteristics, including structure, use of causal explanation, repetition of themes, and an appreciation of the listener's perspective. Referring to the work of Labov and Fanshel (1977), Clark emphasizes that conversations virtually demand the conveying of stories or narratives that require an ordered sequence of events.

Once a complex event is put into a story format, it is simplified. The mind doesn't need to work as hard to bring structure and meaning to it. As the story is told over and

over again, it becomes shorter, with some of the finer detail gradually leveled. The information that is recalled in the story is that which is congruent with the story. Whereas the data (or raw experience) was initially used to create the story, once the story is fixed in the person's mind only story-relevant data is conjured up. Further, as time passes, we have the tendency to fill in gaps in our story to make the story more cohesive and complete. The net effect of constructing a good narrative is that our recollection of emotional events is efficient—in that we have a relatively short, compact story—and undoubtedly biased.

Ironically, then, good narratives can be beneficial in making our complex experiences more simple and understandable but, at the same time, they distort our recollection of them. Translating distress into language ultimately allows us to forget or, perhaps a better phrase, move beyond the experience. As an indirect test of this, Crow and Pennebaker (1997) studied how people thought and talked about the Persian Gulf War during the time it was ongoing and in the months following its completion. Once a week, over 200 students in each of several classes were asked how many times in the previous 24 hours they had talked, thought, and heard about the war. Participants were also asked how worried, upset, and angry they were about the war during each questionnaire administration.

Approximately two and a half years later, 76 students were tracked down who had completed the majority of the war questionnaires. At the beginning of the follow-up telephone interview, people were asked to talk about the war and then were asked a series of objective questions about it (e.g., who were we fighting, who was their leader, on what day did the war start). Among those people who were most upset about the war, the more they talked about it during the war, the poorer their memory about it 2½ years later. They appeared to be constructing a coherent narrative about the event and were easily able to move beyond it once the war was over. By the time of the interview, they simply couldn't recall much about the war since they had had no reason to rehearse or relive the experience. It was a story that had resolved itself in the distant past.

It was suspected that those who were most emotional about it were expressing their concerns and fears as well as mulling over the daily reports through the media. They may not have been focusing on the facts of the war at all—which is what they were tested on over two years later. However, the fact that these same people had the greatest difficulty in remembering who their own country was fighting in the first place suggests that the act of talking may have been instrumental in putting the war behind them. Talking about an event can be examined on the cultural level as well as individual. Entire societies, for example, may collectively "forget" important events (e.g., the Korean War or Persian Gulf War) and remember and/or repeatedly commemorate others (e.g., World War II). Because of these findings, we are now beginning to explore how people naturally talk about emotional events in the real world (see Pennebaker, Paez, & Rimé, 1997). In the future, we hope to be able to tie naturally occurring discussions about distressing experiences to our long-term memories of them.

Discussion

Where does writing fit within the context of therapy? Can writing change behavior? Do people begin to interact differently with others, or perhaps see themselves in a new light after writing about an emotional topic? Although little research has looked at whether a clinical population benefits from writing, it is probably the case that writing would be a useful accompaniment. Having clients keep a journal may facilitate the process of forming a narrative about their experiences, as well as reinforce progress, and support the change of maladaptive behaviors.

Forming a story about one's experiences in life is associated with improved physical and mental health across a variety of populations. Current evidence points to the value of having a coherent, organized format as a way to give meaning to an event and manage the emotions associated with it. In this way, having a narrative is similar to completing a job, allowing one to essentially forget the event.

Whether in written or spoken form, putting personal experiences into a story is associated with both physical and mental benefits across diverse samples. The topic may be general emotional concerns, or may be domain specific. Research has found further that neither personality variables of the author, nor qualities of the audience to whom the writing is directed matters in predicting benefits. An analysis of the writings that people produce has revealed copious use of positive-emotion words, a moderate use of negative-emotion words, and an increase in the use of insight and causal words. This is perhaps the most promising and direct evidence that benefiting from writing is linked to forming a story about one's experiences.

People have a tendency to seek out meaning in their environment, although sometimes this is more difficult in some situations and for some people. Psychotherapy is a more formal venue that often involves putting together a story. Regardless of how narratives get formed, they serve a critical function in people's lives that have important implications for health and general well being.

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