



**Medical messages and the art of storytelling:
Exploring creative communication techniques in
TEDMED talks**

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Received 31/07/2025 Received in revised form 30/04/2026 Accepted 16/06/2026	ABSTRACT Storytelling is a powerful communicative means applied across various fields, including medical communication. This study aims to analyze narrative elements used in popular TEDMED talks from the 2010s to 2020s. Freytag’s five-stage pyramid combined with Burroway’s (2003) diagram of power struggle and the key constructs of social cognitive theory were used to examine the data. The majority of TEDMED speeches were found to use the stages of exposition, complication, climax, falling action, and resolution, as well as emphasize the power struggle to convey particular messages. Among the conflicts of man versus man, man versus nature, man versus society, man versus society and nature, and man versus himself, the man-versus-society conflict was the most common, highlighting challenges concerning medical systems and traditional beliefs. Different types of speaker-story proximity were used, with the portrayal of the speaker as the main character or the speaker being partially involved topping the list, indicating the key advantage of the first-person point of view, with its sense of intimacy. All key constructs of social cognitive theory were applied. The two most common were behavioral capability and locus of control, suggesting the significance of the power of

	information and the power of making one's own choices. Further research could compare narrative elements applied in TED talks in other fields, including the humanities, social sciences, technology, and business. Keywords: Storytelling, Creative Communication, TEDMED Talks, Narrative Persuasion, Medical Communication
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Introduction

Health communication is central to improving well-being, particularly in calling for collective action to improve health. Evidence from neuroscience, behavioral science, and psychology suggests that storytelling can be applied to influence people's thoughts and conduct (World Health Organization, 2024).

Research studies in medical fields have identified narrative persuasion a key factor in communication success. For instance, when many were reluctant to cooperate in global protection measures like vaccination against COVID-19, storytelling could influence the decision to get vaccinated (Avelino-Silva et al., 2023). Leader et al. (2022) also indicate the influence of social-media narrative-based health information on young adults' intentions to discuss the human papillomavirus vaccine and get vaccinated.

In medical fields, narratives are essential parts of communication. Telling stories and listening to those of others help us "discover who we are and what it means to live lives of meaningful encounter in sickness and in health" (Barfield & Selman, 2018, p. 381). Those who wish to impact society with medical or health messages, thus, need to explore and effectively practice the art of storytelling to move their audience.

In the digital era, TED speakers have incorporated storytelling as a key element of successful talks (Callo, 2014). Founded in 1984, TED (Technology, Entertainment, Design) is a non-profit organization dedicated to disseminating "Ideas Worth Spreading" through global conferences featuring speakers from diverse fields, including technology, health, the arts, and education. TED Talks on YouTube, a popular social media platform, are one modern form of science communication that has influenced global audiences (Fischer et al., 2024), with talks delivered at TEDMED events specifically dealing with medical messages. "TEDMED features powerful talks and conversations exploring health, medicine, science, and the future of human wellbeing" (TEDMED, n.d.), and its speakers include physicians, health experts, and healthcare professionals.

TED Talks have been particularly effective in communicating complex or specialized knowledge to lay audiences, attracting more than one

billion views (El Miedany, 2019). As examples of public communication, TED Talks employ appeals to logic, emotion, and speaker credibility (Callo, 2014); accordingly, TEDMED speeches offer valuable material for investigating strategies in health communication.

A number of researchers have examined the linguistic devices applied in TED Talks. For example, Lui (2023) analyzes specialized vocabulary and highlights the potential of TED talks and TED-Ed animations as teaching materials for English for science and technology (EST) students, Wang and Csomay (2024) examine lexical bundles found in TED speeches, such as ‘so this is a’ and ‘we were able to,’ and discuss their pedagogical implications for English for Specific Purposes (ESP) and English for Academic Purposes (EAP). Krairiwattana and Poonpon (2021) analyze rhetorical moves in TED speeches. However, these studies do not address how storytelling functions as a structured narrative form in such global presentations.

Although Callo (2014) examines narrative strategies in TED speeches, the focus is primarily on emotional appeal, novelty, and memorability. The study does not analyze underlying structures, specifically Freytag’s Pyramid (i.e. exposition, rising action, climax, falling action, and denouement), which underpins successful narratives in films (Jirabovornwisut, 2026) or serves as a structure for creative nonfiction, such as memoirs and literary journalism (Cleve, 2024; Ephron, 2007). Moreover, Callo (2014) does not look at power shifts between the two sides of the main character and the source of the key conflict, a fundamental aspect linked to uncertainty, tension, and anticipation, key to creating engaging stories (Hills, 1987).

However, narrative structure and power struggle should be part of medical communication. Illness narratives, for example, often depict journeys or battles, and their study enhances medical students’ “emotional, intellectual, and moral capabilities” (Cole et al., 2015, p. 126). Moreover, in nursing education, drama has similarly been shown to help students foster compassion in patient care (Cavusoglu & Orak, 2026).

At TEDMED events, real-life stories are used to inspire audiences. Nevertheless, few studies have explored the narrative elements selected for such speeches. Barely any research has explored the five-stage story arc and power shifts that intensify uncertainty and tension in TEDMED storytelling.

This study, therefore, aims to explore the narrative elements and styles adopted in TEDMED speeches and analyze their application through the frameworks of Freytag’s Pyramid combined with Burroway’s power struggle diagram. The present study also analyzes how the narrative elements or patterns could be related to social cognitive theory, an established health behavior theory (Hayden, 2014). The results may contribute to the field of public communication. Not only may health or public communicators benefit from narrative discoveries, but teachers of any language may apply particular

elements or patterns in their public speaking, language, creative writing, and communication classrooms.

Literature Review

Storytelling as Communicative Means

Storytelling is an important communicative means helping the speaker achieve their purpose. Cleverley-Thompson (2018) emphasizes the significance of storytelling as an influential skill leaders can use for various purposes. The skill is important not only for those who aspire to be leaders but also for anyone who wishes to communicate particular messages to society.

A substantial body of research has demonstrated the power of storytelling across diverse domains, including environmental communication (Amrhein & Balaban, 2024), social issues such as child marriage (Udengwu et al., 2024), and marketing, where storytelling fosters emotional connections and support, particularly for small organizations (Keel & Tran, 2023). In tourism, effective storytelling can enhance interactions between tourists and tour guides, directly or indirectly contributing to a stronger sense of place authenticity (Leong et al., 2024). However, not all narratives are successful, likely because the audience's needs are not met and sometimes the purposes not clearly contextualized (Cleverley-Thompson, 2018). Learning creative elements or stages applied in effective storytelling can help communicators refine their voices.

Freytag's Pyramid and Burroway's Diagram of Power Struggle

In terms of storytelling, Freytag (as cited in Srivastava et al., 2023) suggests a five-stage plot structure. The first stage, called *exposition*, sets up background information (e.g. the primary conflict, characterization, and setting). The second stage, known as *rising action* or *complication* is when the story path develops toward the central conflict. In other words, the main characters try to achieve their goals but encounter obstacles and further difficulties. Third, *the climax* is the turning point that foreshadows the conclusion of the main characters' paths, while the fourth stage *falling action* hints at the final outcome of the story. Finally, *the denouement* or *the resolution* is the end of the story; the moment of release, whether that be a happy ending or a tragic one.

Burroway (2003) elaborates on the second stage, the complication, by showing a diagram of power struggle. In Cinderella, for example, the audience can see the power struggle between the stepmother and Cinderella before the

climax when the glass slipper fits. The power struggle helps to explain how the audience's attention and curiosity are maintained throughout the story.

Freytag's five-stage arc or pyramid has been applied in storytelling research, including Srivastava et al. (2023) discussing how entrepreneurs can use storytelling to gain audience attention. By applying Freytag's pyramid to analyze viral advertising videos, Quesenberry and Coolson (2019) discovered that videos with full five-act development achieved higher shares and views compared to those with fewer stages.

Storytelling Embedded in TED Talks

The established strategies TED speakers apply to support their standpoints include narrative arguments, which allow speakers to enhance meanings through common and everyday events (Nadeem, 2023). Nadeem (2023) concludes that "the macro context and the knowledge gap between TED speakers and the audience make the use of narrative arguments extremely effective" (436). Despite a body of TED Talk research, scholars mostly focus on linguistic devices, such as hedges (Jovic et al., 2023), lexical bundles (Wang & Csomay, 2024), and specialized science and technology vocabulary (Liu, 2023). Furthermore, by specifically examining biology topics, Xia (2023a; 2023b) analyzes how scientific concepts are described to the general public in TED talks.

Medical Storytelling and TEDMED

The humanities share much with the art of medicine, which involves understanding patients and communicating with people from diverse backgrounds and with different characteristics. Episodes of serious illnesses disrupting the pace of life can be shaped into a livable story called a pathography, revealing "attitudes about illness and treatment" (Cole et al., 2015, p. 126).

A number of medical research studies have been devoted to storytelling interventions. For example, Billman et al. (2024) developed the Health After Cancer podcast and found that digital storytelling can help to communicate complicated survivorship concepts and enhance awareness among patients and physicians. Cancer survivors and experts invited to co-create podcast episodes described the storytelling experience as "powerful and therapeutic" (Billman et al., 2024, p. 1). According to Zhu et al. (2024), patients receiving the digital storytelling intervention showed significantly greater improvements in quality of life, resilience, and self-efficacy compared to the control group treated only with routine care. In pediatric care, Izci and

Çetinkaya (2024) revealed that digital story intervention effectively reduced anxiety and negative emotional conduct among the participants.

Despite many studies suggesting the positive effects of storytelling on medical treatment and many TEDMED talks with millions of views incorporating storytelling, there is a dearth of studies focusing on creative or storytelling elements applied in TEDMED speeches. For example, although Mattiello (2019) examines TED talks relating to the medical field, specifically cancer topics, the scholar mainly focuses on linguistic strategies adopted to adapt medical jargon to non-specialists and on frequent collocational patterns applied when cancer is dealt with. Mattiello's (2019) study does not focus on the storytelling elements used to convey particular meanings, deliver certain themes, or connect with the audience.

Social Cognitive Theory

Hayden (2014) elaborates on influential health behavior theories including social cognitive theory (SCT). Considered an established theory, SCT, proposed by Albert Bandura, has been widely applied to analyze and predict human health behavior (Ma et al., 2020; Marmo, 2013). SCT concerns reciprocal determinism, or how personal factors, the environment, and behavior affect one another (Hayden, 2014). To illustrate, analyzing messages college students receive in terms of physical activity, Marmo (2013) concludes that SCT can help to explain how these messages influence health behaviors.

The three main parts of SCT—personal, environmental, and behavioral factors—are influenced by many constructs including “self-efficacy, expectations, observational learning (modeling), expectancies, emotional arousal, behavioral capability, reinforcement, and locus of control” (Hayden, 2014, p. 176).

If the narrative elements of TEDMED talks are analyzed to fully understand their influential aspects, their relation to SCT should also be studied. Given the limited attention paid to the integration of narrative structure and power struggle as analytical lenses in health storytelling and the lack of information about TEDMED narrative patterns or any health behavior theories associated with medical storytelling, this paper, therefore, aims to address the following research questions:

Research Questions

1. What narrative elements are used in popular TEDMED speeches?
2. How are narrative elements and patterns employed by health communicators in TEDMED talks?

3. How can the narrative elements and patterns be explained using social cognitive theory?

Methodology

Materials and Methods

The twenty-five most-viewed TEDMED speeches on the social media platform YouTube were selected, as YouTube is one of the world's most influential online platforms (Skeldon, 2026). To determine their popularity, the YouTube view count was considered. The selected video clips, released from the 2010s to the 2020s, allow us to observe the trends of a 10-year period.

The data were collected in April 2024, when YouTube still allowed users to sort clips by “view count,” enabling the compilation a database based solely on this metric. View counts were also verified individually for each clip. In January 2026, YouTube replaced the “view count” sorting option with “popularity,” which incorporates additional factors. Consequently, searching for TEDMED speeches on YouTube today may produce a different set of clips.

Although TEDMED maintains an official YouTube channel, the researcher did not restrict clip selection to this source. TEDMED talks concerning medical/health topics are also disseminated through other channels, such as the official TED YouTube channel, where they often attract substantially higher view counts.

On the most-viewed list, if a particular clip was not released by the TEDMED channel, it was verified that the speech was delivered at a TEDMED event. A few speeches that did not contain narratives were excluded and those that were next on the most-viewed list were included to total of twenty-five. Please note that the view count of each selected video may be higher than the observed number as the researcher only considered the view count for the single clip that first appeared on YouTube. The number of views of its copies on YouTube, the TEDMED website, or the TED Talk website was not included.

Table 1

The 25 Selected TEDMED Speeches

Title	Speaker	Year
1. My son was a Columbine shooter. This is my story.	Sue Klebold	2016

2. How childhood trauma affects health across a lifetime	Nadine Burke Harris	2015
3. "Everything happens for a reason" — and other lies I've loved	Kate Bowler	2019
4. The surprising science of alpha males	Frans de Waal	2018
5. Why we can't stop eating unhealthy foods	Laura Schmidt	2015
6. What your doctor won't disclose	Leana Wen	2014
7. Discovering and designing genomes for Earth, Mars, and beyond	Chris Mason	2016
8. The science of psilocybin and its use to relieve suffering	Roland Griffiths	2016
9. Let's quit abusing drug users	Carl Hart	2015
10. Is the "obesity crisis" just a disguise for a deeper problem?	Peter Attia	2013
11. How porn changes the way teens think about sex	Emily F. Rothman	2019
12. A doctor's case for medical marijuana	David Casarett	2017
13. Why doctors kill themselves	Pamela Wible	2016
14. Seeing song through the ears of a synesthete	Kaitlyn Hova	2017
15. Why do our brains get addicted?	Nora Volkow	2015
16. What veterinarians know that physicians don't	Barbara Natterson-Horowitz	2014
17. What makes life worth living in the face of death	Lucy Kalanithi	2017
18. Are zombie doctors taking over America?	Zubin Damania	2013
19. What really happens when you mix medications?	Russ Altman	2016
20. On a scale of 1-10, how crazy are you?	Elizabeth Kenny	2014
21. How sign language can bring music to life	Amber Galloway Gallego	2018
22. Harnessing the power of placebos	Alia Crum	2017
23. What made me run for my life?	Scott Jurek	2012
24. How to raise kids who can overcome anxiety	Anne Marie Albano	2020
25. If we can't cure the patient, can the community do it?	Mark Hyman	2012

The selected talks focus specifically on medical or health issues and human well-being, encompassing both physical and mental health. While subject matter and individual speaking styles varied, these did not impact the theoretical analysis or the identification of narrative structure or power dynamics. Data were analyzed using a descriptive analytical approach, employing frequency counts and percentage distributions to identify patterns for contextual interpretation.

To answer the first and second research questions, Freytag's pyramid combined with Burroway's (2003) diagram of power struggle were applied to analyze the structure of each TEDMED speech. First, the primary message of each TEDMED speech was identified, as well as the type of story conflict related to power struggle.

The *goal* is what the main character wants; the *motivation* is why they want it; and the *conflict* is the butts that keep getting in the way, pushing the character forward (Jirabovornwisut, 2025; Jump, 2021). Conflict jeopardizes the protagonist's interests or forces them to change (Jump, 2021). The criteria for categorizing the five types of conflict in the selected TEDMED stories are:

1. 'Man versus Man': The protagonist encounters an antagonist with competing or opposing goals, or different values. They vie against each other or have a problematic relationship.
2. 'Man versus Nature': The protagonist faces natural obstacles beyond human control, such as aging and illness.
3. 'Man versus Society': The protagonist struggles against rules, social bias, or any particular social system.
4. 'Man versus Nature and Society': The protagonist concurrently faces significant obstacles from both natural and social domains.
5. 'Man versus Himself': Internal struggle serves as the primary obstacle preventing the protagonist from achieving their goal.

(Cook, 2020; Jirabovornwisut, 2025)

Next, each speech was mapped onto the five stages of Freytag's Pyramid to identify key structures. A Burroway-based power struggle diagram was constructed for each narrative. This diagram plotted the key instances prompting the protagonist to either maintain or alter their behavior. Each instance was positioned on the protagonist's side if it supported their goal (power on their side), and on the opposing side if it hindered goal attainment (power shifted to the other side).

Next, speech types were identified according to the speaker-story proximity criteria provided below:

1. Speaker as main character: The story focuses primarily on the speaker's own life, causing them as the central protagonist of the five-stage story arc.
2. Speaker partially involved: The speaker is seen as a character or researcher within the narrative, but the primary focus remains on the empirical results and conclusions of a study.
3. Speaker separated from research: The speaker in part talks about their story but it is conveyed separately from the research information, with the denouement centering on the research conclusions.
4. Natural process: Besides the protagonist's story, the narrative prioritizes the biological processes of the human body.

5. Figure of speech: If Freytag's structure or power struggle were not observed, the figure of speech (i.e. simile and metaphor) was identified.

Additionally, each speech was coded for the presence or absence of the five-stage structure. "Presence" was defined as the inclusion of all five stages. The percentage was calculated by dividing the number of speeches meeting this criterion by the total number of speeches and multiplying by 100.

To answer the third research question, the creative elements and structure of each TEDMED speech were analyzed using the key constructs of SCT, namely self-efficacy, expectations, self-regulation, observational learning (modeling), expectancies, emotional arousal, behavioral capability, reinforcement, and locus of control.

An SCT construct was identified as predominant in message delivery if:

1. It influences the motivation of the character to achieve their goal or facilitates them in dealing with obstacles during the period close to the climax.
2. It is identified in the denouement as being a significant factor helping the character deal with obstacles or achieve their goal.
3. It directly connects the audience to the story message. For example, observational learning is significant if a particular story invites the audience to imitate a behavior or mindset when facing similar circumstances. For instance, a story about a family dealing with illness and life uncertainty reflects a common human experience. Despite the tendency of TEDMED talks to be inspirational, observational learning is not always predominant, especially when the story deviates greatly from common human experience (e.g. the story of a mother whose son committed a mass shooting).

Based on the three criteria above, the key characteristic of each construct as guided by Hayden (2014) was evaluated:

1. Self-efficacy: belief in one's own ability to achieve the task
2. Expectations: expectations of the outcome of a behavior
3. Self-regulation: setting and following a plan for what one believes one can achieve
4. Observational learning (modeling): learning by watching others and copying their behavior
5. Expectancies: the values one places on the outcomes of a particular behavior
6. Emotional arousal: defensive behavior caused by fear

7. Behavioral capability: having the knowledge and skills to perform the task
8. Reinforcement: a system of rewards or punishments in response to a behavior
9. Locus of control: the degree to which the individual believes in their ability to control what happens to them, or the belief that external forces completely govern their outcomes

Finally, the following were calculated: frequencies of each type of story conflict, each speech type based on speaker-story proximity, and each SCT construct. For story conflict and speaker-story proximity, frequencies were converted into percentages relative to the total sample of speeches. For SCT constructs, frequencies were reported as absolute counts and presented in a bar chart to facilitate comparison across a larger number of categories ($n = 9$), supporting subsequent contextual interpretation.

Data Analysis

Tables 2 and 3 present one sample analyzed using Freytag's pyramid combined with Burroway's (2003) diagram of power struggle and the key constructs of SCT. The sample is the TEDMED talk 'What Makes Life Worth Living in the Face of Death.' The key message is 'through truly embracing suffering, we can live life fully while dealing with death and uncertainty.' The narrative is characterized by the Man versus Nature conflict, with a speaker-story proximity categorized as Speaker as Main Character.

Table 2

Stages in Freytag's Pyramid Combined with Burroway's Diagram of Power Struggle Found in 'What Makes Life Worth Living in the Face of Death'

Freytag's Pyramid	Summary of Key Events	Power Struggle
Exposition	The speaker's happy family life	Man vs Nature Conflict: The conflict is established between the speaker and nature. Power shifting back and forth between the speaker's side and nature's side 1. Power on the Speaker's Side:

		Having a happy life with her husband
Rising action	What the speaker and her husband had to go through	2. Power on Nature's Side: Her husband, Paul, being diagnosed with cancer 3. Power on the Speaker's Side: Being starkly honest made it comforting; preparing things that are necessary 4. Power on Nature's Side: Facing a lot of difficulties including making tough decisions (e.g. whether to have a baby) 5. Power on the Speaker's Side: Cady, their baby, was born
Climax	Paul died	-
Falling action	Living mindfully (e.g. a scene with Cady at the grave)	-
Resolution	Reaching a conclusion or a lesson to be passed on: Engaging in the full range of experience—living and dying, love and loss—is what we get to do; Patients have choices and right to refuse what is not needed.	-

Table 2 presents the power struggles between the protagonist and nature through Freytag's different stages. The protagonist or the speaker had to struggle to live her life when nature presented her family with the obstacles of illness and death. During the exposition stage, she recounted her happy family life with her husband Paul. However, then the power shifted to nature's side when Paul was diagnosed with cancer. Yet the power returned to the speaker when she and her partner became bluntly honest with each other about what was truly needed, and they started to prepare the necessary things.

Nevertheless, power shifted again to nature when the situation got more difficult. They found themselves facing a great deal of tough decisions, such as whether to have a child. Power shifted back to the speaker when she and her husband addressed their true needs by having Cady, their baby.

Next came the turning point of the story. Paul passed away, and the speaker's life changed tremendously. Despite this, through living with her daughter, she realized that loving and losing Paul made her continue life with great mindfulness and hope. Finally, the speaker shared with the audience the

lesson she'd learned and would pass on to her daughter: "engaging in the full range of experience—living and dying, love and loss—is what we get to do." She said, "being human doesn't happen despite suffering" but "happens within it." The speaker emphasized that patients and their loved ones have choices and the right to say no to any treatment that is "not right for you."

Table 3

The Key Constructs of Social Cognitive Theory Applied in 'What Makes Life Worth Living in the Face of Death'

SCT Key Constructs	How the Construct Is Applied
1. Self-efficacy	Not outstanding in this talk
2. Expectations	Fulfilling answer or outcome in the end can be expected
3. Self-regulation	Not outstanding in this talk
4. Observational learning (modeling)	Learning through observation of the speaker's life
5. Expectancies	Fulfilling answer or outcome in the end can be expected
6. Emotional arousal	Not outstanding in this talk
7. Behavioral capability	Having knowledge about having choices, what is suitable for particular circumstances, and the right to say no is necessary
8. Reinforcement	Not outstanding in this talk
9. Locus of control	People can make their choices

Of the nine key constructs of SCT, the speech 'What Makes Life Worth Living in the Face of Death' features five. Through the lens of SCT, the storytelling embedded in the speech offers persuasive aspects since the speaker shows that, despite difficulties, if you have lived life fully with your loved one, when the loved one is gone, life can still be fulfilling. This is linked to two key constructs: expectations and expectancies. The speaker convinced the audience that the results of knowing their choices and being honest about what is truly needed will lead to satisfying outcomes and minimize negative consequences in terms of mental health. This can then motivate the audience to do the same when facing similar situations.

In terms of observational learning, the audience can learn from observing the life of the speaker and what the speaker and her husband had gone through. Regarding behavioral capabilities, the speaker provided the

necessary knowledge concerning having choices and the right to choose or say no to what does not fit particular circumstances and emphasized “living means more than just staying alive.” The final key construct—locus of control—concerns a spectrum ranging from internal to external orientations and is also applied in this talk. Despite the brutal circumstances of life and death, the speaker and her family could make personal choices that helped them live their lives with no regrets. In short, five key constructs of SCT can be used to explain the effectiveness of storytelling embedded in the speech.

Self-efficacy, self-regulation, emotional arousal, and reinforcement were not identified as predominant. Self-efficacy did not feature greatly in propelling the character forward. In the story the speaker was uncertain about life or her ability to control the outcome. Similarly, emotional arousal did not feature as the couple did not exhibit defensive behavior rooted in fear. Given their professional backgrounds as doctors, the couple understood the process of delivering negative news to patients and the emotional aspects related. They understood death as being an inherent part of life. Although fear was involved when it came to her partner’s situation, when they decided to have Cady, close to the climax, the decision was based on love, not fear.

Self-regulation requires an individual to develop confidence in their abilities and predict outcomes before establishing objectives and strategies (Hayden, 2014). However, when the couple decided to have a baby, the speaker was initially reluctant, fearing having a child would make saying goodbye more painful. She eventually chose the love that could cause pain following her husband’s response to show willingness to embrace the pain that comes with great love. Finally, a system of receiving rewards or punishments in response to a behavior was not observed.

Results and Discussion

The Narrative Elements Used in Popular TEDMED Speeches

This section outlines the primary narrative elements identified in the TEDMED speeches, focusing on the five-stage structure and the power struggle framework, to address Research Question 1

The TEDMED speakers apply the 5-step storytelling approach in their speeches, though not always chronologically, with three speeches being exceptions. Moreover, while all the stories demonstrate the power struggle approach, one focuses on informative content, comparing animal and human behaviors over conflict-driven progression, thereby deviating from the tension-based structure. The following analysis examines how narrative approaches are implemented

The Ways the Narrative Elements and Patterns Are Applied by Health Communicators in TEDMED Talks

This section addressed Research Question 2 by examining how the identified narrative elements are realized across the speeches.

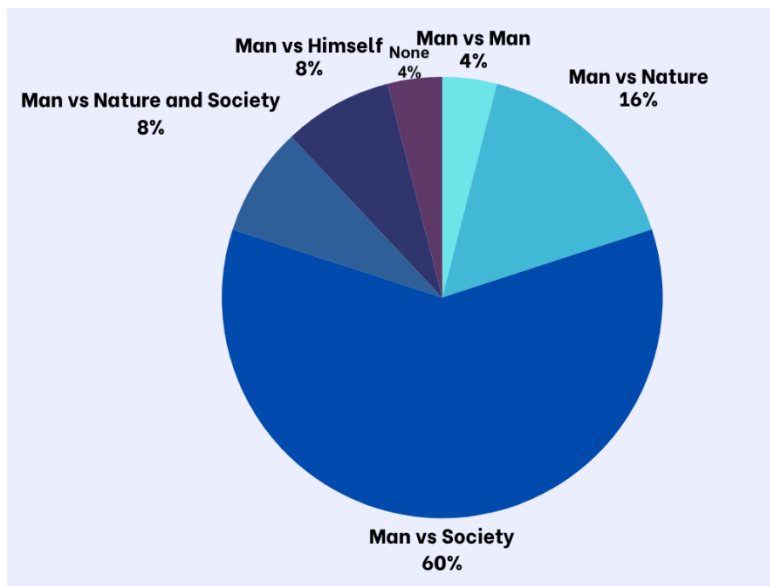
The five-stage structure (exposition, complication, climax, falling action, and resolution) was identified in 88% of the TEDMED speeches. The complication stage emphasizes the conflict of man against man, man against nature, man against society, man against nature and society, or man against himself.

Some speakers present themselves as the main character, some embed their own story within the larger narrative, while some distance themselves from the story of the research.

Figure 1 illustrates the key conflicts of the power struggle salient in the selected data. Figure 2 shows speech types based on speaker-story proximity.

Figure 1

Key Conflicts of the Power Struggles Demonstrated in the TEDMED speeches

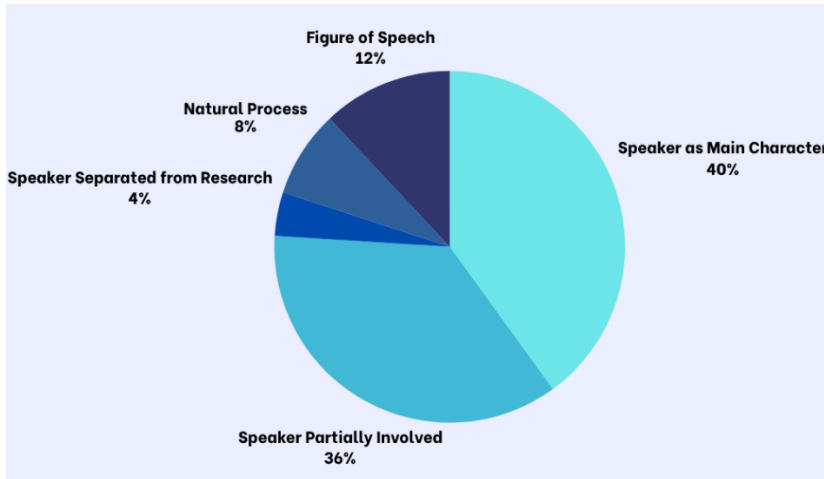


As presented in Figure 1, the most frequently applied conflict is man versus society, which serves as the key conflict in 60% of the speeches. The second most common is the conflict of man versus nature, accounting for 16%. Next, the conflicts of man versus man, man versus nature and society,

and man versus himself each appear in 8% of the speeches. None are used in the talk that does not include Freytag's 5 steps of narration.

Figure 2

Speech Types Based on Speaker-Story Proximity



As shown in Figure 2, the most commonly applied pattern in the TEDMED speeches is using the speaker's own story with the speaker as the main character, appearing in 40% of the speeches. Nearly as common, at 36%, is the pattern where speakers are partially involved in their stories but not as the main character. Figures of speech, i.e. simile and metaphor, were selected in 12% of the speeches not involving Freytag's five steps. Another 8% involves natural processes, and the other 4% features the speaker separated from the research.

For instance, in "Everything Happens for a Reason"—And Other Lies I've Loved," Kate shares her life story as its protagonist. Having struggled with conflict against illness (cancer) and society (people's differing opinions), she felt loved and concluded in the resolution: "there is one kind of prosperity gospel that I believe in. I believe that in the darkness, even there, there will be beauty, and there will be love. And every now and then, it will feel like more than enough."

"How Childhood Trauma Affects Health across a Lifetime" provides an example of Speaker Partially Involved. Nadine, the narrator, shared a story about how she followed a career in health to help others. The climax involves the moment when key research findings about childhood trauma changed

Nadine's clinical practice and ultimately her career. Although Nadine portrays herself as a character, the key information focuses on research findings.

The Speaker Separated from Research is represented by "If We Can't Cure the Patient, Can the Community Do It?" Here the speaker Mark begins with a personal anecdote about traveling and highlights the moment he became aware of diabetes. Unlike Nadine whose career path was affected by the key research findings, Mark's life was not. Instead, he was inspired to take further action, believing that peer support in the community can lead to healthy lifestyles.

Natural Process is exemplified by "Why Do Our Brain Get Addicted." In this instance, the story does not belong to any particular character. It is the biological process of the human body, explained to illustrate the collective obstacles people in society encounter.

Figure of Speech covers those talks applying only figure of speech and not conveying a power struggle. In "Discovering and Designing Genomes for Earth, Mars, and Beyond," for instance, the speaker compares DNA to music, saying "in all of you there is to some degree a genetic symphony that's playing right now as long as you can hear it and have the right instrument."

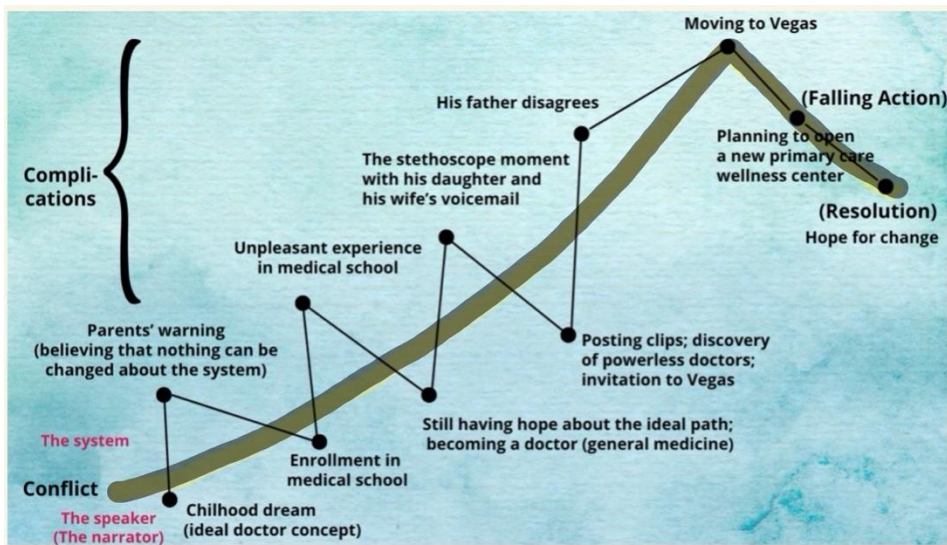
Notably, Figure of Speech was not identified only in speeches without power struggle. In "How Childhood Trauma Affects Health across a Lifetime," for example, Nadine also used a bear metaphor to convey the circumstances dangerous to child development. She talked about walking in a forest and encountering a bear, likely then leading to activation of the brain's and body's stress response system: "the problem is what happens when the bear comes home every night, and this system is activated over and over and over again."

The finding that the conflict of man versus society tops the list is consistent with key issues present in medical fields. Shmerling (2021), for instance, highlights the dysfunctional aspects of the US healthcare system. When systems themselves are at the core of problems, many medical stories feature power struggles between society, where such systems are established, and the main character struggling to survive within these systems, norms, or beliefs.

To illustrate, Figure 3 shows Burroway's (2003) power struggle diagram within Freytag's narrative arc, emphasizing the conflict of society, or in this case, the broken system, versus man, or the speaker as the main character in his life story. This figure is based on a selected TEDMED talk and illustrates the power struggle framework within a full narrative. This case was chosen because it reflects the most common conflict type identified in the dataset (man versus society), thereby complementing the aggregated findings with a contextualized illustration.

Figure 3

Burroway's (2003) diagram of power struggle alongside Freytag's narrative arc, analyzing the Man vs Society conflict



As shown in Figure 3, in the TEDMED talk ‘Are Zombie Doctors Taking over America?’, the system is on one side whereas the speaker, as the narrator’s voice, is on the other, with the power shifting back and forth between the two. In the exposition stage, the speaker speaks of being young and aspired to be a doctor, holding in his mind the concept of an ideal doctor. However, his doctor parents warned against such ideals since their experience convinced them that nothing could be done to change or improve the system. Next, the power shifted to the speaker when he entered medical school, and what he believed the start of his dream career.

Despite the power seemingly shifting away as he faced unpleasant experiences in medical school, the power also returned to the speaker as he held on to the hope of one day following his father’s path despite his father’s warnings and having “a fulfilling career” by eventually becoming a doctor of general medicine.

Nevertheless, the system gained power over him, when his daughter, wearing a stethoscope, came to him and said that she would love to be a doctor like her father. Burned out by the brutal realities of the system, the speaker shattered his daughter’s dream, saying,

Honey! Do you know why Daddy takes those hour-long showers after work every day? It’s because it’s the only place

where Daddy can cry, and no one will see him. Now take that stethoscope off. It's covered with bacteria! And go to your room!

(TEDMED, 2013, 1:53)

He even reached the point when he found himself delete one voicemail message among dozens from his wife asking him to come home.

Next, the power seemed to shift to his side again when together with his doctor friend he posted videos about their experiences of being doctors and discovered that they were not alone. He said, “it turns out I wasn’t alone in feeling powerless in the system. In fact, 82% of doctors feel powerless to affect the system. Barely half would do it again if given the chance.”

The speaker received an invitation to move to Las Vegas with the opportunity to affect the culture of medicine. However, his father advised him, in what he believed to be his son’s best interests, to decline the invitation and so the power seemingly shifted once more to the system’s side. Then came the climax, or the turning point of the story, when the speaker did move to Las Vegas with his wife and two daughters. In the falling action stage, he had a plan with his business partner to open a radical new primary care Wellness Center where they would practice the idea that “medicine is about human relationships” and that it should be affordable to everyone.

In the end, the speaker adopted a pragmatic stance, noting that “it’s really easy to be inspired” in settings such as TEDMED, while acknowledging that health professionals out there were facing “the increasing weight of caring for the nation.” He ended with a hopeful conclusion, with the idea that one day health professionals would realize that they are strong and will be able to reconnect with their passion and rise together to challenge the system.

In terms of how the story is told, in the selected TEDMED talks, both chronological order and flashback are applied. In some talks the climax is presented at the very beginning as a method to capture the audience’s attention, before the background information and the rising action leading to such climax are provided.

For example, in the talk ‘How Porn Changes the Way Teens Think about Sex,’ the speaker highlighted the turning point at the beginning: her 2012 talk with high school students and how she got their attention talking about pornography. This talk shows the conflict of society versus man, as the speaker—a violence prevention activist conducting research about pornography and providing classes about pornography literacy—had to face criticism from society not understanding what she had been doing and having a certain label for pornography related subjects. In the end, the speaker emphasized that the turning point that led her to the proposed solutions including the possibility that pornography can be used to educate teenagers

about sex and porn literacy and provide a safe environment to discuss complex elements, thereby enhancing sexual violence prevention.

When a chronological order is not chosen, the climax is not necessarily the beginning part of the speech. For example, in the ‘Are Zombie Doctors Taking over America?’ talk, the stethoscope moment with his daughter—an emotionally charged episode in which the father shattered his daughter’s dream even though it was the same as his as a child—was selected as an early part of the talk. Additionally, in ‘What Makes Life Worth Living in the Face of Death’, the speaker begins with her husband’s diagnosis of cancer to highlight the conflict right away and capture the audience’s attention before employing flashback to provide the background about how their relationship was formed.

The finding that the speaker being portrayed as the main character in the story and the speaker partially involved with the story are the most frequently used patterns in terms of proximity can be explained with a key advantage of the first-person point of view, using intimacy to connect with the audience. Moreover, the fact that the speaker being the main character is slightly more frequently used as a pattern than the speaker being partially involved can be explained by the assertion that it could be more engaging experiencing events directly through the perspective of the one having encountered them. Despite being slightly less frequent, the pattern of the speaker being partially involved can offer a different advantage, which is an aspect about reliability when the speaker is supposed to be less emotional than one whose life story is directly involved with the events.

In talks where the speaker being partially involved is used, the content concerns speakers who conducted medical research and discovered significant ideas as the turning point, through research findings or through other influential events. Although the speaker’s life is not directly involved with the conflict, the speaker becomes partially involved with the story conflict, as a researcher facing traditional and beliefs against what they have worked on, for example.

The conflict of man versus nature is second on the list, which emphasizes the main sufferings of human beings or struggle against aging, illness, and death. Interestingly, the conflict of man versus himself is only applied when the speaker is the main character of the story. This makes sense as the inner conflict can be portrayed with a sense of reliability when it is told by the mind’s owner. For example, in the speech ‘Seeing song through the ears of a synesthete’, the speaker shared her own life story in which, at first, she came to understand how her perceptions differed from others. Also, in the talk ‘What Made Me Run for My Life’, the speaker portrays himself as the main character of the story, and the main character may represent people in general who do not enjoy eating healthy food and do not like doctors.

In the research data, the conflict of man versus man, or the protagonist against the antagonist, is never used with the pattern in which the speaker is the main character of the story. This can be explained with a communicative strategy of avoiding portraying oneself as the core or part of conflict confrontation when the antagonist exists in the real world.

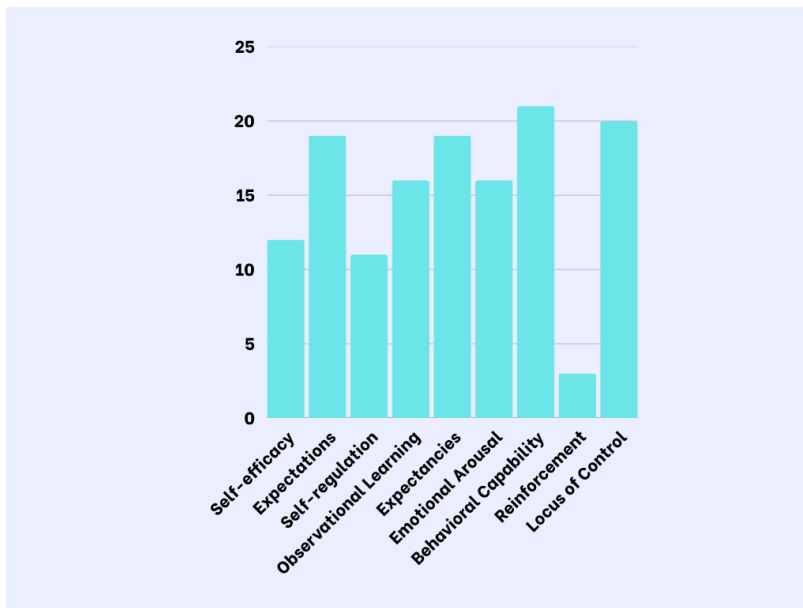
The man versus man conflict is adopted with the pattern of natural process. In the talk ‘Why We Can’t Stop Eating Unhealthy Foods’, the speaker conveys the conflict of having consumers on one side and food companies on the other. The power struggle between these two sides is elaborated with the natural process of the human body. When consumers have the power to choose beneficial items for their body and have the lawful power on their side, food companies also employ tricks concerning the mechanisms of the human body to sell their products.

Narrative Elements and Patterns Explained with Social Cognitive Theory

This section addresses Research Question 3 by examining how the narrative patterns applied by health communicators at TEDMED events can be linked with the key constructs of SCT.

Figure 4

The Key Constructs of Social Cognitive Theory Applied in the TEDMED Speeches



As presented in Figure 4, all key constructs of SCT are used in the TEDMED speeches, with behavioral capability and locus of control being the most prevalent, applied in 21 and 20 out of 25 speeches, respectively. The third most common constructs are expectations and expectancies, each found in 19 speeches. Observational learning and emotional arousal are equally represented, each appearing in 16 speeches. Self-efficacy is embedded in 12 speeches, followed by self-regulation in 11 speeches. Reinforcement is the least used construct, identified in only 3 speeches.

Two salient constructs in storytelling embedded in TEDMED speeches are behavioral capability (the necessity of knowledge of the behavior) and locus of control (internally versus externally controlled), emphasizing the power of information, as well as underlining that despite influential external factors or uncontrollable circumstances, people have choices when dealing with their particular issues.

Before making effective choices, people need adequate knowledge concerning the factors, circumstances, and potential results. To illustrate, in ‘What Makes Life Worth Living in the Face of Death’ (2017), Kalanithi provided knowledge about the right to say no and gave significant details in crucial conversations with her husband, such as the reason why they should have a baby. Similarly, in ‘What Your Doctor Won’t Disclose’ (2014), Wen rationalized why doctors should not conceal their personal beliefs or who they are and gave information about how beneficial it would be for medicine if doctors disclosed their true selves. Despite the hatred and challenges the speaker had been through, as a doctor, Wen stood firm on her choice for ‘Who’s My Doctor?’ campaign and showed the audience positive outcomes.

Desirable results and encouraging conclusions were placed in the falling-action and resolution stages in the stories embedded in TEDMED talks as a way to persuade the audience to adopt or avoid certain behaviors so as to achieve positive outcomes if they find themselves in similar circumstances. This explains why the constructs of expectations and expectancies are also common.

Moreover, seeing how another has overcome obstacles with their mindful choices, the audience can be motivated to follow the fulfilling path suggested by the speakers. The common use of the construct of observational learning emphasizes the art of persuasion by learning from models or by “watching others and copying their behavior” (Hayden, 2014, p. 177),

The common use of emotional arousal can be explained with the same reasoning underlining the typical application of expectations and expectancies. People craving positive outcomes likely fear negative outcomes. The stories in TEDMED speeches also emphasize that the opposite of positive outcomes may occur if the suggested path is not taken. In some

speeches, the negative path is the present situation, as in ‘Are Zombie Doctors Taking Over America?’, for example.

The constructs self-efficacy and self-regulation are less common. One possible explanation is that emphasizing confidence or strategic planning may not intensify narrative conflict. Moreover, the inspirational paths portrayed in many stories concern certain situations and decisions by the speakers or characters. This can imply that while others can do the same, it does not directly emphasize each individual’s self-efficacy or self-regulation.

The least applied construct in the TEDMED talks is reinforcement. Positive reinforcement is a system of rewards while negative reinforcement is one of punishments. The infrequent use of reinforcement in TEDMED stories indicates that depicting rewards or punishments portrayed through the lives of others is not a predominant strategy for inspiring people. This could lead to the assumption, potentially explored in future research, that reinforcement may be more effective when people know that they will immediately receive rewards or punishments, not vicariously through positive or negative outcomes in other people’s lives.

Conclusion

Storytelling has been considered a powerful communicative tool and applied in a wide range of fields. In popular health communication, namely TEDMED talks, modern health communicators typically use creative elements of storytelling. Freytag’s Pyramid of five stages of storytelling and Burroway’s diagram of power struggle—which emphasize the conflicts of man versus society, man versus nature, man versus nature and society, man versus himself, and man against man—are applied.

TEDMED speakers tell stories with different types of proximity, and the most common is that the speaker is portrayed as the main character of the story standing on one side of the power struggle. Very close behind, the second most common is that the speaker is partially involved, typically as the researcher of certain studies. The findings suggest that having the speaker as the main character or the character that is involved with the key story in certain ways is an effective strategy for using storytelling to persuade people.

The key constructs of SCT can also be used to explain the communicative strategies embedded in stories recounted at TEDMED events. The most common are behavioral capability and locus of control, indicating the power of information and the power of making choices.

This study is limited by its reliance on descriptive analysis. Future research could incorporate statistical analyses to examine relationships among variables and enhance generalizability. Further research could include larger sample sizes and compare the elements applied across different fields, such

as health sciences, social sciences, humanities, and business. As for the art of communication, the creative possibilities are endless. Exploring the strategies used by communicators at world-renowned events could serve as learning models that lead to more innovative communication approaches.

About the Author

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