

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/283318445>

The More Who Die, the Less We Care: Psychic Numbing and Genocide

Chapter · September 2015

CITATION

1

READS

184

2 authors, including:



[Daniel Västfjäll](#)

Linköping University

162 PUBLICATIONS 3,172 CITATIONS

[SEE PROFILE](#)

All content following this page was uploaded by [Daniel Västfjäll](#) on 30 October 2015.

The user has requested enhancement of the downloaded file. All in-text references [underlined in blue](#) are added to the original document and are linked to publications on ResearchGate, letting you access and read them immediately.

Paul Slovic and Daniel Västfjäll

The More Who Die, the Less We Care Psychic Numbing and Genocide³¹

A defining element of catastrophes is the magnitude of their harmful consequences. To help society prevent or mitigate damage from catastrophes, immense effort and technological sophistication are often employed to assess and communicate the size and scope of potential or actual losses. This effort assumes that people can understand the resulting numbers and act on them appropriately.

However, recent behavioral research casts doubt on this fundamental assumption. Many people do not understand large numbers. Indeed, large numbers have been found to lack meaning and to be underweighted in decisions unless they convey affect (feeling). As a result, there is a paradox that rational models of decision making fail to represent. On the one hand, we respond strongly to aid a single individual in need. On the other hand, we often fail to prevent mass tragedies – such as genocide – or take appropriate measures to reduce potential losses from natural disasters. We believe this occurs, in part, because as numbers get larger and larger, we become insensitive; numbers fail to trigger the emotion or feeling necessary to motivate action.

We shall address this problem of insensitivity to mass tragedy by identifying certain circumstances in which it compromises the rationality of our actions and by pointing briefly to strategies that might lessen or overcome this problem.

Background and Theory: The Importance of Affect

Risk management in the modern world relies upon two forms of thinking. Risk as feelings refers to our instinctive and intuitive reactions to danger. Risk as analysis brings logic, reason, quantification, and deliberation to bear on hazard manage-

³¹ This work draws on the material from Paul Slovic and Daniel Västfjäll (2013): “The More Who Die, The Less We Care: Psychic Numbing and Genocide”. In: *Behavioural Public Policy*. Edited by Adam Oliver. Cambridge University Press. Reproduced with permission.

This material is based upon work supported by the Hewlett Foundation, and by the U.S. National Science Foundation under Grant Nos. SES-1024808, SES-1227729, and SES-1427414. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the Hewlett Foundation or the National Science Foundation.



ment. Compared to analysis, reliance on feelings tends to be a quicker, easier, and more efficient way to navigate in a complex, uncertain, and dangerous world. Hence, it is essential to rational behavior. Yet it sometimes misleads us. In such circumstances we need to ensure that reason and analysis also are employed.

Although the visceral emotion of fear certainly plays a role in risk as feelings, we shall focus here on the “faint whisper of emotion” called affect. As used here, affect refers to specific feelings of “goodness” or “badness” experienced with or without conscious awareness. Positive and negative feelings occur rapidly and automatically; note how quickly you sense the feelings associated with the word joy or the word hate. A large research literature in psychology documents the importance of affect in (1) conveying meaning upon information and (2) motivating behavior. Without affect, information lacks meaning and will not be used in judgment and decision making.

Facing Catastrophic Loss of Life

Risk as feelings is clearly rational, employing imagery and affect in remarkably accurate and efficient ways. But this way of responding to risk has a darker, non-rational side. Affect may misguide us in important ways. Particularly problematic is the difficulty of comprehending the meaning of catastrophic losses of life when relying on feelings. Research reviewed below shows that disaster statistics, no matter how large the numbers, lack emotion or feeling. As a result, they fail to convey the true meaning of such calamities and they fail to motivate proper action to prevent them.

The psychological factors underlying insensitivity to large-scale losses of human lives apply to catastrophic harm resulting from human malevolence, natural disasters, environmental degradation, and technological accidents. In particular, the psychological account described here can explain, in part, our failure to respond to the diffuse and seemingly distant threat posed by global warming as well as the threat posed by the presence of nuclear weaponry. Similar insensitivity may also underlie our failure to respond adequately to problems of famine, poverty, and disease afflicting large numbers of people around the world and even in our own backyard.

Genocide and Mass Atrocities: The Scope of the Problem

Over the past century the world has been shocked to learn of many horrific incidents of mass collective violence. The Holocaust of World War II stands out and, in recent years, atrocities in Rwanda, the Balkans, and Darfur have gained the world's attention. Today, humanitarian catastrophes in Syria and the Middle East are in the news.

Yet, these memorable cases are only a small part of the problem, as shown in Table 1. Mass atrocities, defined as the intended death of at least 1000 non-combatants from a distinct group in a period of sustained violence ([Ulfelder and Valentino 2008](#)), are not rare. Since 1900, 201 distinct cases resulted in an estimated 84 million fatalities, an average of about 470,000 each! The atrocities death toll is comparable to interstate wars and vastly greater than that from terrorism.

Table 1: Comparative measures of seriousness for state-sponsored mass atrocities (genocides and mass killings), intrastate and interstate wars, and terrorism.

Conflict Type	Number of Distinct Cases	Time Period	Seriousness	
			Total estimated fatalities for the cases	Estimated fatalities per case
Mass Atrocities	201	1900–2012	84,183,410	470,298
Interstate Wars	66	1900–2007	30,698,060	465,122
Excluding WW I and WW II	64	1900–2007	5,485,122	85,705
Intrastate Wars	228	1900–2007	5,469,738	28,1922
Terrorism (Domestic and International)	113,113	1970–2012	241,480	2

Tab. 1: Comparative measures of seriousness for state-sponsored mass atrocities. Slovic (2015) Pending Copyright Approval From Oxford University Press
Source: Adapted from Anderton (in press).

In addition to the stunning frequency and scale of mass atrocities, what stands out in historical accounts of these abuses is the inaction of bystanders. In her prizewinning book “A Problem from Hell: America and the Age of Genocide,”

Samantha Power documented the inadequacy of the U.S. Government's response to numerous genocides dating back to 1915 (Power 2003). She concluded:

“No U.S. president has ever made genocide a priority and no U.S. president has ever suffered politically for his indifference to its occurrence. It is thus no coincidence that genocide rages on” (Power 2003, p. xxi).

Nowhere is the problem of apathy and inaction more starkly apparent than in the Darfur region of Western Sudan. Since February 2003, hundreds of thousands of people in Darfur have been murdered by government-supported militias, and millions have been forced to flee their burned-out villages for the dubious safety of refugee camps. This has been well documented (Hamilton 2011; Reeves 2007). And yet the world looks away.

The United Nations (UN) General Assembly adopted the Convention on the Prevention and Punishment of the Crime of Genocide in 1948 in the hope that “never again” would there be such odious crimes against humanity as occurred during the Holocaust of World War II. Eventually, some 140 states would ratify the Genocide Convention, yet it has rarely been invoked to prevent a potential attack or halt an ongoing massacre. Darfur has shone a particularly harsh light on the failures to intervene in genocide. As Richard Just (2008) has observed,

... we are awash in information about Darfur. ... [N]o genocide has ever been so thoroughly documented while it was taking place ... but the genocide continues. We document what we do not stop. The truth does not set anybody free. ... (p. 36).

[H]ow could we have known so much and done so little? (p. 38).

Affect, Analysis, and the Value of Human Lives

This brings us to a crucial question: How should we value the saving of human lives? An analytic answer would look to basic principles or fundamental values for guidance. For example, Article 1 of the UN Universal Declaration of Human Rights asserts that “[a]ll human beings are born free and equal in dignity and rights.”³² We might infer from this the conclusion that every human life is of equal value. If so, then – applying a rational calculation – the value of saving N lives is N times the value of saving one life, as represented by the linear function in Figure 1.1a.

³² Full text available at: <http://www.un.org/en/documents/udhr/>

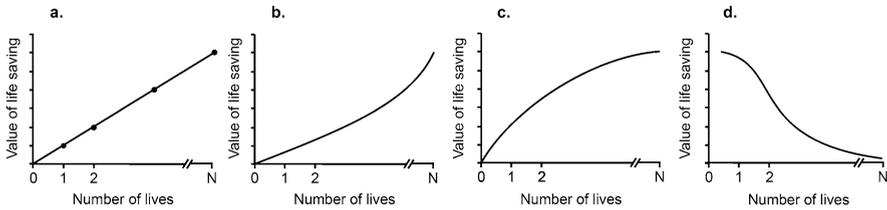


Fig. 1: Normative Models where (a) every life is of equal value and (b) large losses threaten group or societal descriptive models of (c) psychophysical numbing and (d) psychic numbing and the collapse of compassion. Source: [Slovic \(2007\)](#).

An argument can also be made for judging large losses of life to be disproportionately more serious because they threaten the social fabric and viability of a group or community (see Figure 1.1b). Debate can be had at the margins over whether one should assign greater value to younger people versus the elderly, or whether governments have a duty to give more weight to the lives of their own people, and so on, but a perspective approximating the equality of human lives is rather uncontroversial.

How do we actually value human lives? Research provides evidence in support of two descriptive models linked to affect and intuitive thinking that reflect values for lifesaving profoundly different from those depicted in the normative (rational) models shown in Figures 1.1a and 1.1b. Both of these descriptive models demonstrate responses that are insensitive to large losses of human life, consistent with apathy toward genocide.

The Psychophysical Model

There is considerable evidence that our affective responses and the resulting value we place on saving human lives follow the same sort of “psychophysical function” that characterizes our diminished sensitivity to changes in a wide range of perceptual and cognitive entities – brightness, loudness, heaviness, and wealth – as their underlying magnitudes increase.

As psychophysical research indicates, constant increases in the magnitude of a stimulus typically evoke smaller and smaller changes in response. Applying this principle to the valuing of human life suggests that a form of psychophysical numbing may result from our inability to appreciate losses of life as they become larger. The function in Figure 1.1c represents a value structure in which the importance of saving one life is great when it is the first, or only, life saved but diminishes as the total number of lives at risk increases. Thus, psychologically, the importance

of saving one life pales against the background of a larger threat: We may not “feel” much difference, nor value the difference, between saving 87 lives and saving 88.

[Fetherstonhaugh](#), Slovic, Johnson, and Friedrich (1997) demonstrated this potential for psychophysical numbing in the context of evaluating people’s willingness to fund various lifesaving interventions. In a study involving a hypothetical grant funding agency, respondents were asked to indicate the number of lives a medical research institute would have to save to merit receipt of a \$10 million grant. Nearly two-thirds of the respondents raised their minimum benefit requirements to warrant funding when there was a larger at-risk population, with a median value of 9,000 lives needing to be saved when 15,000 were at risk (implicitly valuing each life saved at \$1,111), compared to a median of 100,000 lives needing to be saved out of 290,000 at risk (implicitly valuing each life saved at \$100). Thus respondents saw saving 9,000 lives in the smaller population as more valuable than saving more than ten times as many lives in the larger population. The same study also found that people were less willing to send aid that would save 4,500 lives in Rwandan refugee camps as the size of the camps’ at-risk population increased.

In recent years, vivid images of natural disasters in South Asia and the American Gulf Coast, and stories of individual victims there, brought to us through relentless, courageous, and intimate news coverage, unleashed an outpouring of compassion and humanitarian aid from all over the world. Perhaps there is hope here that vivid, personalized media coverage featuring victims could also motivate intervention to halt the killing.

Perhaps. Research demonstrates that people are much more willing to aid identified individuals than unidentified or statistical victims. But a cautionary note comes from a study in which Small, Loewenstein, and [Slovic](#) (2007) gave people who had just participated in a paid psychological experiment the opportunity to contribute up to \$5 of their earnings to the charity Save the Children. In one condition, respondents were asked to donate money to feed an identified victim, a seven-year-old African girl named Rokia. Respondents in a second group were asked to donate to Rokia, but were also shown statistics of starvation in several African countries – millions in need. Unfortunately, coupling the statistical realities with Rokia’s story of need reduced contributions to Rokia by about 40%!

Why did this occur? Perhaps the presence of statistics reduced the attention to Rokia essential for establishing the emotional connection necessary to motivate donations. Alternatively, recognition of the millions who would not be helped by one’s small donation may have produced negative feelings that inhibited donations. Note the similarity here at the individual level to the failure to help 4,500 people in the larger refugee camp. The rationality of these responses can be questioned. We should not be deterred from helping 1 person, or 4,500, just because there are many others we cannot save!

In sum, research on psychophysical numbing is important because it demonstrates that feelings necessary for motivating lifesaving actions are not congruent with the normative/rational models in Figures 1.1a and 1.1b. The nonlinearity displayed in Figure 1.1c is consistent with the devaluing of incremental loss of life against the background of a large tragedy. It can thus explain why we don't feel any different upon learning that the death toll in Darfur is closer to 400,000 than to 200,000. What it does not fully explain, however, is apathy toward genocide, inasmuch as it implies that the response to initial loss of life will be strong and maintained, albeit with diminished sensitivity, as the losses increase. Evidence for a second descriptive model, better suited to explain apathy toward large losses of lives, follows.

The Collapse of Compassion

American writer Annie Dillard (1999) reads in her newspaper the headline “Head Spinning Numbers Cause Mind to Go Slack.” She writes of “compassion fatigue” and asks, “At what number do other individuals blur for me?”³³

An answer to Dillard's question is beginning to emerge from behavioral research. Studies by social psychologists find that a single individual, unlike a group, is viewed as a psychologically coherent unit. This leads to more extensive processing of information and stronger impressions about individuals than about groups. Consistent with this, a study in Israel found that people tend to feel more distress and compassion and to provide more aid when considering a single victim than when considering a group of eight victims (Kogut and Ritov 2005). A follow-up study in Sweden found that people felt less compassion and donated less aid toward a pair of victims than to either individual alone (Västfjäll, Slovic, Mayorga, and Peters 2014). Perhaps the blurring that Annie Dillard asked about begins for groups as small as two people.

The insensitivity to lifesaving portrayed by the psychophysical-numbing model is unsettling. But the studies just described suggest an even more disturbing psychological tendency. Our capacity to feel is limited. To the extent that valuation of lifesaving depends on feelings driven by attention or imagery, it might follow the function shown in Figure 1.1d, where the emotion or affective feeling

³³ She struggles to think straight about the great losses that the world ignores: “More than two million children die a year from diarrhea and eight hundred thousand from measles. Do we blink? Stalin starved seven million Ukrainians in one year, Pol Pot killed two million Cambodians. ...” (Dillard, 1999, pp. 130–131).

is greatest at $N = 1$ but begins to fade at $N = 2$ and collapses at some higher value of N that becomes simply “a statistic” (Västfjäll et al., 2014). Whereas Robert J. Lifton (1967) coined the term psychic numbing to describe the “turning off” of feeling that enabled rescue workers to function during the horrific aftermath of the Hiroshima bombing, Figure 1.1d depicts a form of psychic numbing that is not beneficial. Rather, it leads to apathy and inaction, consistent with what is seen repeatedly in response to mass murder and genocide.

Perhaps both psychophysical and collapse valuations are activated within the same decision context as the number of lives at risk increases, resulting in a hybrid, inverted U-shaped function such as that shown in Figure 2. There is considerable evidence for a value function following such an inverted U-shaped function (Grant and Schwartz 2011; Reutskaja and Hogarth 2009; Smith 1983). For example, food consumption often follows this trajectory where the value of initial food intake is very high. After attaining some level of satiation, further food intake may no longer be attractive. Importantly, at some point (that may vary with individuals and over time and contexts) the value of further intake is going to decline, perhaps precipitously (Blundell et al., 2009). We believe that such a model describes how we respond to life valuation as well and thus contributes to the failure to respond adequately to genocide and mass atrocities (Västfjäll et al., 2014).

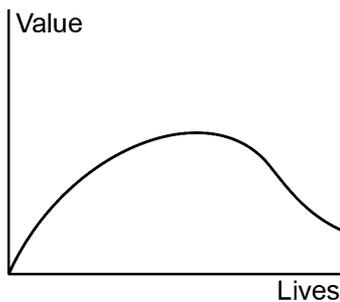


Fig. 2: A psychophysical-collapse function describing the value for saving lives. Adapted from Västfjäll et al. (2014).

The Failure of Moral Intuition

Thoughtful deliberation takes effort. Fortunately, evolution has equipped us with sophisticated cognitive and perceptual mechanisms that can guide us through our daily lives efficiently, with minimal need for “deep thinking.”

For example, the natural and easy way to deal with moral issues is to rely on our intuitive feelings. We can also apply reason and logical analysis to determine right and wrong, as our legal system attempts to do. But, as Jonathan Haidt (2001), a psychologist at the University of Virginia, has demonstrated, moral intuition comes first and usually dominates moral judgment unless we make an effort to critique and, if necessary, override our intuitive feelings.

Unfortunately, moral intuition underlies the descriptive models of lifesaving described above, where the importance of saving lives lessens or even declines as the number of people at risk increases. As a result, intuition fails us in the face of genocide and other disasters that threaten human lives and the environment on a large scale. We cannot trust it. It depends upon attention and feelings that may be hard to arouse and sustain over time for large numbers of victims, not to mention numbers as small as two. Left to its own devices, moral intuition will likely favor individual victims and sensational stories that are close to home and easy to imagine. Our sizable capacity to care for others may be demotivated by negative feelings resulting from thinking about those we cannot help. Or it may be overridden by pressing personal and local interests. Compassion for others has been characterized by social psychologist Daniel Batson as “a fragile flower, easily crushed by self-concern” (Batson, O’Quin, Fultz, Vanderplas, and Isen 1983). Faced with genocide and other mass tragedies, we cannot rely on our intuitions alone to guide us to act properly.

What Should We Do?

Behavioral research, supported by common observation and the record of repeated failures to arouse citizens and leaders to halt the scourge of genocide and to prevent thousands from perishing in natural disasters, sends a strong and important message. Our moral intuitions often seduce us into calmly turning away from massive losses of human lives, when we should be driven by outrage to act. This is no small weakness in our moral compass.

Educating moral intuitions

A natural response to the growing awareness of our insensitivity to problems of scale is to consider ways to educate moral intuitions. But how can we modify our gut instincts to better understand and respond to problems large in scope? This is not an easy question to answer, but we can speculate about possible ways forward.

One way of infusing intuition with greater feeling is by changing the way we frame information. The affective system primarily deals with the here and now and with concrete images. We speculate that reframing a large-scale problem may be a way of increasing affect, attention, and action. For instance, “800,000 killed in the last 100 days” can be broken down and reframed as “1 life lost every 11 seconds.” Both the 1 life lost and the near-time horizon of “every 11 seconds” induce accessible images and thus are likely to create more affect and different information processing (Trope and Liberman 2003).

More generally, if statistics represent “human beings with the tears dried off,” tears and feeling can be increased by highlighting the images that lie beneath the numbers. For example, organizers of a rally designed to get Congress to do something about 38,000 deaths a year from handguns piled 38,000 pairs of shoes in a mound in front of the Capitol (Associated Press 1994). Students at a middle school in Tennessee, struggling to comprehend the magnitude of the Holocaust, collected six million paper clips as a centerpiece for a memorial (Schroeder and Schroeder-Hildebrand 2004). In this light it is instructive to reflect on the characterization by Holocaust survivor Abel Hertzberg: “There were not six million Jews murdered: there was one murder, six million times.”

When it comes to eliciting compassion, psychological experiments demonstrate that the identified individual victim, with a face and a name, has no peer, providing the face is not juxtaposed with the statistics of the larger need (Small et al., 2007). But we know this as well from personal experience and media coverage of heroic efforts to save individual lives. The world watched tensely as rescuers worked for several days to rescue 18-month-old Jessica McClure, who had fallen 22 feet into a narrow abandoned well shaft. Charities such as Save the Children have long recognized that it is better to endow a donor with a single, named child to support than to ask for contributions to the bigger cause.

The face need not even be human to motivate powerful intervention. A dog stranded aboard a tanker adrift in the Pacific was the subject of one of the most costly animal rescue efforts ever (Vendantam 2010). Hearing this, columnist Nicholas Kristof (2007) recalled cynically that a single hawk, Pale Male, evicted from his nest in Manhattan, aroused more indignation than two million homeless Sudanese. He observed that what was needed to galvanize the American public and their leaders to respond to the genocide in Darfur was a suffering puppy with big eyes and floppy ears:

“If President Bush and the global public alike are unmoved by the slaughter of hundreds of thousands of fellow humans, maybe our last, best hope is that we can be galvanized by a puppy in distress”.

Further to this last point, Paul Farmer (2005) has written eloquently about the power of images, narratives, and first-person testimony to overcome our “failure of imagination” in contemplating the fate of distant, suffering people. Such documentation can, he asserts, render abstract struggles personal and help make human rights violations “real” to those unlikely to suffer them. Who hasn’t gained a deeper understanding of the Holocaust from reading Elie Wiesel’s *Night* or *The Diary of Anne Frank*? Fiction, too, can create empathy and meaning. Barbara Kingsolver conveyed this rather elegantly:

The power of fiction is to create empathy A newspaper could tell you that one hundred people, say, in an airplane, or in Israel, or in Iraq, have died today. And you can think to yourself, “How very sad,” then turn the page and see how the Wildcats fared. But a novel could take just one of those hundred lives and show you exactly how it felt to be that person You could taste that person’s breakfast, and love her family, and sort through her worries as your own, and know that a death in that household will be the end of the only life that someone will ever have. As important as yours. As important as mine. (Kingsolver, 1995, p. 231)

If the power of narrative and the personal story can be used to enhance the understanding of large numbers, we should think about how to use this to educate children about numbers. We teach children about the mechanics of operations such as addition, division, etc., but we do not teach them how to “feel the meaning” behind numbers that represent real life entities such as people and endangered species. Research in numerical cognition suggests that we have an “intuitive number sense” (Dehaene 1997) that allows us to represent and manipulate numerical quantities nonsymbolically (Peters, Slovic, Västfjäll and Mertz 2008). This number sense provides the conceptual basis for mapping numerical symbols onto their meaning (Dehaene 2001) and is present even in infants (Libertus and Brannon 2009). Yet, people fail to assign meaning to large numbers. The number sense initially develops to deal with precise representation of small numbers, while large quantities are only approximate representations (Feigenson, Dehaene, and Spelke 2004). The development of a nonverbal number sense, with the ability to approximate larger magnitudes, appears to depend on the input a child receives (Clements and Sarama 2007). Thus, children have the tools for understanding large numbers, but are not given sufficient knowledge on how to apply these tools to appropriately deal with real-world numbers. We believe that development of methods designed to help children “feel the meaning” of numbers might be an important way to combat psychic numbing. Maybe the intuitive number sense can be more tightly coupled with our moral sensitivities by educating children about the affective meaning of numbers.

From moral intuition to moral judgment

If strategies to educate intuition and overcome psychic numbing are successful, there will be an upsurge of emotion that needs to be channeled into effective action by national governments. Here is where moral intuitions need to be bolstered by moral judgment to design laws and institutions that commit states to respond to mass tragedies, rather than being silent witnesses. And if education of intuition proceeds slowly or not at all, maintaining the current level of psychic numbing, the deficiencies of moral intuition point even more strongly to the need for structured decision-aiding procedures and institutionalized mechanisms to protect human rights. The former include sophisticated decision-analytic techniques designed to clarify the relevant objectives and ensure that actions taken are consistent with considered normative values for those objectives (Slovic, Västfjäll, and Gregory 2012). For lifesaving values, the models in Figures 1a and 1b might be appropriate. Regarding institutional mechanisms, the Convention on the Prevention and Punishment of the Crime of Genocide and the UN (1948) were supposed to do this but they have repeatedly failed. Efforts to address this with new treaties such as “responsibility to protect” (UN 2005) are urgently needed.

Recognizing that international actors will resist laws that precommit them to act to prevent or stop genocide, Slovic, Zionts, Woods, Goodman, and Jinks (2013) have proposed a “softer” solution based on the intrinsic reasonableness of moral judgments applied to the value of human life. Specifically, officials should be required to publically deliberate and reason about actions to take in response to genocide and other mass atrocities. Just as we expect government to proffer reasons to justify intervention, we should expect and require public justification for decisions not to intervene to save human lives. This merging of intuition and deliberation may be achieved through the reporting requirements of a deliberation-forcing regime that would likely ramp up pressure on governments to take action.

Conclusion

The stakes are high. Failure to overcome the numbing to which our moral intuitions are susceptible may force us to passively witness another century of genocide and mass abuses of innocent people, as in the previous century. Educating intuitions through the use of images, narratives, and first person testimony holds promise for infusing numerical data with emotional meaning. Laws and institutions, designed with an understanding of the shortcomings of intuitive response, hold another vital key to meaningful interventions.

Bibliography

- Anderton, Charles (in press): “Datasets and trends of genocide, mass killing, and other civilian atrocities”. In: Anderton, Charles/Brauer, Jurgen (Eds.). *Economic aspects of genocide, mass atrocity, and their prevention*. Oxford, UK: Oxford University Press.
- Associated Press (1994, September 21): “38,000 shoes stand for loss in lethal year”. *The Register-Guard*, p. 6A.
- Batson, Daniel/ O’Quin, Karen/Fultz, Jim/Vanderplas, Mary/Isen, Alice (1983): “Self-reported distress and empathy and egoistic versus altruistic motivation for helping”. *Journal of Personality and Social Psychology*, 45, 706–718.
- Blundell, John/De Graaf, Kees/Finlayson, Graham/Halford, Jason/Hetherington, Marion/King, Neil/Stubbs, Richard (2009): “Measuring food intake, hunger, satiety and satiation in the laboratory”. In: David B. Allison, Monica L. Baskin (Eds.): *Handbook of assessment methods for eating behaviours and weight-related problems: Measures, theory and research* (2nd ed., pp. 283–325). Newbury Park, CA: Sage.
- Clements, Douglas/Sarama, Julie (2007): “Early childhood mathematics learning”. In: J. F. K. Lester (Ed.): *Second handbook of research on mathematics teaching and learning* (pp. 461–555). New York: Information Age.
- Dehaene, Stanislas (1997): “[The number sense: How the mind creates mathematics](#)”. New York: Oxford University Press.
- Dehaene, Stanislas (2001): “Précis of the number sense”. *Mind & Language*, 16, 16–36.
- Dillard, Annie (1999): “*For the time being*”. New York: Alfred A. Knopf.
- Farmer, Paul (2005): “*Never again? Reflections on human values and human rights*”. Paper presented at the Tanner Lectures on Human Values, Salt Lake City, Utah. Retrieved from http://tannerlectures.utah.edu/_documents/a-to-z/f/Farmer_2006.pdf, visited on 10 December 2014.
- Feigenson, Lisa/Dehaene, Stanislas/Spelke, Elizabeth (2004): “Core systems of number”. *Trends in Cognitive Sciences*, 8, 307–314.
- Fetherstonhaugh, David/Slovic, Paul/Johnson, Stephen/Friedrich, James (1997): “Insensitivity to the value of human life: A study of psychophysical numbing”. *Journal of Risk and Uncertainty*, 14, 283–300.
- Grant, Adam/Schwartz, Barry (2011): “Too much of a good thing: The challenge and opportunity of the inverted U”. *Perspectives on Psychological Science*, 6, 61–76.
- Haidt, Jonathan (2001): “The emotional dog and its rational tail: A social intuitionist approach to moral judgment?”. *Psychological Review*, 108, 814–834.
- Hamilton, Rebecca (2011): *Fighting for Darfur: Public action and the struggle to stop genocide*. New York: Macmillan Publishers.
- Just, Richard (2008, August): “The truth will not set you free: Everything we know about Darfur and everything we’re not doing about it”. *The New Republic*, 239, 36–47.
- Kingsolver, Barbara (1995): *High tide in Tucson*. New York: HarperCollins.
- Kogut, Tehila/Ritov, Ilana (2005): “The ‘identified victim’ effect: An identified group, or just a single individual?”. *Journal of Behavioral Decision Making*, 18, 157–167.
- Kristof, Nicholas (2007, May 10): “Save the Darfur puppy”. *The New York Times*. <http://query.nytimes.com/gst/fullpage.html?res=9902EFD61731F933A25756C0A9619C8B63>, visited on 10 December 2014.
- Libertus, Melissa/Brannon, Elizabeth (2009): Behavioral and neural basis for number sense in infancy. *Current Directions in Psychological Science*, 18, 346–351.

- Lifton, Robert (1967): *Death in life: Survivors of Hiroshima*. New York: Random House.
- Peters, Ellen/Slovic, Paul/Västfjäll, Daniel/Mertz, C. K. (2008): "Intuitive numbers guide decisions". *Judgment and Decision Making*, 3, 619–635.
- Power, Samantha (2003): *A problem from hell: America and the age of genocide*. New York: Harper Perennial.
- Reeves, Eric (2007): *A long day's dying: Critical moments in the Darfur genocide*. Toronto, Canada: Key Publishing House.
- Reutskaja, Elena/Hogarth, Robin M (2009): "Satisfaction in choice as a function of the number of alternatives: When 'goods satiate' ". *Psychology & Marketing*, 26, 197–203.
- Schroeder, Peter/Schroeder-Hildebrand, Dagmar (2004): *Six million paper clips: The making of a children's holocaust museum*. Minneapolis, MN: Kar-Ben.
- Slovic, P. (2007): "If I look at the mass I will never act: Psychic numbing and genocide". *Judgment and Decision Making*, 2, 79–95.
- Slovic, Paul/Västfjäll, Daniel (2013): "The more who die, the less we care: Psychic numbing and genocide". In A. J. Oliver (Ed.), *Behavioural public policy* (pp. 94–114). UK: Cambridge University Press.
- Slovic, Paul/Västfjäll, Daniel/Gregory, Robin (2012): "Informing decisions to prevent genocide". *SAIS Review*, 32, 33–47.
- Slovic, Paul/Zionts, David/Woods, Andrew/Goodman, Ryan/Jinks, Derek (2013): "Psychic numbing and mass atrocity". In: Eldar Shafir (Ed.): *The behavioral foundations of public policy* (pp. 126–142). NJ: Princeton University Press.
- Small, Deborah/Loewenstein, George/Slovic, Paul (2007): "Sympathy and callousness: The impact of deliberative thought on donations to identifiable and statistical victims". *Organizational Behavior and Human Decision Processes*, 102, 143–153.
- Smith, Barry (1983): "Extraversion and electrodermal activity: Arousal and the inverted-U". *Personality and Individual Differences*, 4, 411–419.
- Trope, Yaacov/Liberman, Nira (2003): "Temporal construal". *Psychological Review*, 110, 403–421.
- Ulfelder, Jay/Valentino, Benjamin (2008): "Assessing risks of state-sponsored mass killing". <http://ssrn.com/abstract=1703426>, visited on 10 December 2014.
- United Nations (UN) General Assembly (1948, December): "Convention on the prevention and punishment of the crime of genocide". http://www.un.org/en/preventgenocide/adviser/genocide_prevention.shtml, visited on 10 December 2014.
- United Nations (UN) General Assembly (2005, October): "Resolution adopted by the General Assembly: 60/1. 2005 World Summit outcome". New York: Author. <http://unpan1.un.org/intradoc/groups/public/documents/un/unpan021752.pdf>. visited on 10 December 2014.
- Västfjäll, Daniel/Slovic, Paul/Mayorga, Marcus/Peters, Ellen (2014): "Compassion fade: Affect and charity are greatest for a single child in need". *PLoS ONE*, 9, e100115.
- Vendantam, Shankar (2010): *The hidden brain: How our unconscious minds elect presidents, control markets, wage wars, and save our lives*. New York: Spiegel & Grau.