

The Futures Need Feeling

Longpath Labs White Paper

Ari Wallach

Founder and Executive Director, Longpath Labs

Jamil Zaki, Ph.D

Assistant Professor, Department of Psychology at Stanford University

Director of the Stanford Social Neuroscience Laboratory

The problem: Short-term thinking in the face of long-term needs

Our species' recent technological and cultural advances have put us in an unprecedented psychological position. The decisions we make now – about how to consume, interact, and develop – will irrevocably affect our descendants for countless generations. Indeed, some choices – whether to use nuclear weapons, or how to address climate change – will determine whether future generations ever come to pass.

The long-term impact of our actions strains the limits of our cognitive capacities. Human decision-making is famously myopic. Children find it difficult to wait for two marshmallows rather than impulsively consuming one, and adults find it equally difficult to opt for kale over burgers, or for retirement savings over credit card spending (Beshears, Choi, Laibson, & Madrian, 2009; Heatherton, Polivy, & Herman, 1991; Mischel, Shoda, & Rodriguez, 1989). Psychologists and economists capture this phenomenon through a measure known as *temporal discounting*, which allows scientists to quantify the human penchant for immediate gratification. Discounting measures reveal that people most value rewards that they can enjoy now, and that as a good thing (e.g., health or a comfortable retirement) recedes in time, their value fades as well (Kable & Glimcher, 2010; Laibson, 1997).

Discounting operates over even short timespans – people often prefer \$10 now over \$100 in a year – but over inter-generational lengths it grows quite severe. For instance, an average person's discounting function indicates that they would equally value \$0.38 now versus \$10M in 500 years (Revesz, 1999). Further, economists believe that a second "layer" of discounting might emerge when people think about very long timespans. In essence, the value of a future reward might near zero if we won't be there to enjoy it (Arrow et al., 2013). This cognitive trap makes it even more difficult for people to adequately plan for a long-term future - especially during acute societal shifts as we will discuss below.

Finally, society now finds itself in what Longpath calls an "Intertidal zone." Our technological capabilities have outpaced our typical social and cultural practices, but we have yet to develop new norms and practices that keep up with technology. According to Longpath, Intertidal moments generate widespread anxiety. Anxiety, in turn, triples down on short-term thinking: under stress and fear, people develop tunnel vision: focusing on immediate and survival-relevant information and action. When people experience stress, for instance, they

have a harder time empathizing with others (Andrew R Todd, Forstmann, Burgmer, Brooks, & Galinsky, 2015). They also exhibit a stronger bias towards short-term thinking and rash behavior (Cyders & Smith, 2008; Gray, 1999). In other words, Intertidal anxiety makes it maximally difficult for us to make long-term decisions, just at the moment when those decisions are most vital.

The assumption: Long-term thinking requires a Vulcan mindset

We find ourselves in a world that needs us to operate over the long-term, but with minds that tend towards the short-term. How do we address this paradox? The classic answer to this question is that we must amputate emotion from our decision-making whenever possible. This perspective is at least as old as Aristotle, who described passions as capricious, dangerous roadblocks on the path to becoming fully human. Kant agreed. He viewed even generally positive emotions – such as sympathy – as poor compasses for wise and moral action. “Good natured passion,” he wrote, “is nevertheless weak and always blind” (Kant, 1785 / 2002).

A bias against emotion persists among psychologists. Walter Mischel, inventor of the famed “marshmallow task,” has described *hot* emotional states as responsible for short-term bias, and *cool*, unemotional cognition as the key to cultivating far-sighted choices (Metcalf & Mischel, 1999). There is undeniable wisdom to this position in some cases. Emotions can be driven by forces outside of our control. Lynch mobs and market bubbles occur when feelings spread across crowds like wildfire over a field (Hatfield, Cacioppo, & Rapson, 1994). Propagandists use emotions – including empathy for in-group victims – to stir up loyalty to their group and belligerence towards outsiders (Bloom, 2013). Movements such as Effective Altruism hold that the most effective ways to create positive long-term change is through a dispassionate calculation of the greatest good one can generate through her actions (MacAskill, 2016; Singer, 2015).

In all of these cases, the evidence is straightforward: passion clouds us, and we’re better off when cooler heads prevail. Under this view, if we want our species to live long and prosper, we should do our best to be like Spock. But is this *always* the case? We argue that this assumption reflects an outmoded view of how feelings work, and that in fact emotions – when “pointed” in the correct direction – can generate wise, long-term decisions, benefitting from their intrinsic psychological power.

The futures need feeling

In the last several decades, a scientific revolution has re-written the way we think about emotions. In particular, researchers have learned that emotions are *wise* in at least three ways. First, they often guide us towards optimal choices. Emotional response to gambles, for instance, telegraph which ones are wise or unwise, before gamblers have a chance to reason this out (Bechara, Damasio, & Damasio, 2000). Second, contrary to a widely held assumption, passion and reason are not fundamentally at odds with each other. Instead, people exert enormous control over what they feel and when they feel it. For instance, they can use strategies such as distraction or re-thinking to change what they feel. Every time you remind yourself that a horror movie is just a movie, you've engaged in such *emotion regulation* (Gross, 1998, 2015).

Emotion regulation is most famous as a technique for turning down negative feelings and turning up positive ones (Gable & Reis, 2010), but people also use regulation in more nuanced ways. For instance, people guide themselves into even negative emotions if they are relevant to the task at hand. Individuals who are about to get in an argument choose to feel angry, and individuals who are about to ask for a favor choose to feel sad (Tamir, 2009). Crucially, this means we can also “point” emotions towards particular goals – including helping others and planning for the long term – a point to which we will return later.

Third and finally, there is a suite of feelings known as *self-transcendent emotions*, which appear well-suited to broad, long-term choices. These emotions, which include gratitude, compassion, and awe, evolved to manage relationships with others, orienting people to a world that is bigger than ourselves (Stellar et al., 2017). Any coalitional behavior – from hunting a woolly mammoth to building a suspension bridge – requires people to sacrifice short-sighted, egoistic gains in order to work together toward mutual gain. Self-transcendent emotions allow people and other animals to manage cooperative situations through early-evolving “hot” means, *without* needing to appeal to a reasoning that disdains emotion (DeSteno, 2009; Trivers, 1971).

A burgeoning literature demonstrates that self-transcendent emotions indeed feed into long-term decisions. For instance, people who are induced to feel gratitude towards others or pride in their group (but not narcissistic pride in themselves) exhibit less temporal discounting (DeSteno, Li, Dickens, & Lerner, 2014; Ho, Tong, & Jia, 2016). Awe, though less well-studied, is

also intriguing from a Longpath perspective. Psychologists define awe as an emotion triggered by perceiving something vast, for instance considering the size of our planet, galaxy, or universe. Perceived vastness jolts us out of quotidian mindsets and forces us to recalibrate (Keltner & Haidt, 2003; Shiota, Keltner, & Mossman, 2007).

Awe can be considered a form of emotional humility, which situates us in a larger context and reminds us how small our short-term concerns truly are. As a result, it highlights larger – and potentially more long-term – priorities. After listening to Carl Sagan’s “pale blue dot,” everyday stressors might recede into the background, along with the survival mode thinking that accompanies them. Consistent with this idea, people induced to feel awe experience a “small self,” or diminished importance in the face of vastness. As a result they act more generously (Piff, Dietze, Feinberg, Stancato, & Keltner, 2015), and connect with spiritual and religious sentiments (Van Cappellen & Saroglou, 2012). Almost no work has investigated the direct role of awe in people’s decisions over differing timescales, but one study suggests that it might limit temporal discounting (Rudd, Vohs, & Aaker, 2012). We propose investigating this idea further – and in intergenerational terms – below.

A roadmap for building far-sighted emotion

Longpath aims to help people orient towards a trans-generational future, and to care enough about that future that they make choices on its behalf, even if that means sacrificing some short-term reward. There are multiple psychological paths to this goal. Cultivating a Vulcan mindset – down-regulating emotion and logically working out optimal long-term thinking – is one of them. The effective altruism movement, for instance, has used this path to great effect. Here we focus on a complementary, alternative path to long-termism: rather than evolving *beyond* emotions, *evolving our emotions* such that they favor transgenerational thinking. There are many sub-paths through which to achieve this goal, but we propose focusing on two in particular: stoking empathy for future generations, and awe in response to the vastness of time.

Both intervention approaches build on modern classic techniques from social psychology, which take advantage of the power of human imagination. Perspective taking and writing exercises robustly change people’s experience and subsequent behavior. As such they offer a low-tech, cheap, and scalable way to induce self-transcendent emotions and – we believe – transgenerational thinking. That said, both approaches can also be used in concert with sophisticated technology such as VR, and bolstered through other creative media

platforms, plugging into Longpath’s vision of collaborating with content creators from different fields. We consider this with respect to temporal awe below.

Transgenerational empathy. Empathy – our connection to other people’s emotions – is a vastly powerful emotion that motivates positive action, such as prosociality (Zaki, 2016; Zaki & Ochsner, 2016). But for all its power, empathy is also fragile, often going missing just when we most need it. For instance, people find it difficult to empathize with others who differ from them politically, racially, or ideologically (Zaki & Cikara, 2015). Likewise, empathy comes more naturally when we have direct access to people’s emotional cues – their faces, voices, and stories (Small & Loewenstein, 2003). As a result, people tend to empathize preferentially to others who are close to themselves: spatially, socially, and temporally. When this happens, we also dole out kindness in uneven, nepotistic, and potentially short-term ways (Slovic, 2007; Slovic, Västfjäll, Erlandsson, & Gregory, 2017). However, this limit is not “baked in” to the nature of empathy. Like other emotions, people can regulate empathy, pointing it towards targets with whom they might typically find it difficult to connect (Schumann, Zaki, & Dweck, 2014; Zaki, 2014).

Another limit of empathy is that, as we discussed above, stress and anxiety make it relatively inaccessible, focusing individuals instead on their own survival. The more positive corollary to this is that cultivating a sense of *psychological safety* – especially through close connection to other people – can build empathy. For instance, reminding people of positive attachment figures, such as supportive family members, renders them more empathic and helpful (Mikulincer et al., 2001; Mikulincer, Shaver, Gillath, & Nitzberg, 2005).

Longpath proposes to combine these insights into an intervention designed to build empathy for future generations, by first connecting them with the past. To wit, we are all living in our ancestors’ distant future, one which they could not imagine. By reminding people of their past, for instance by asking them to research or write about sacrifices that their ancestors made for their (current individuals’) well-being, we can cultivate connection with and gratitude towards past others. In a first phase intervention, we could also connect this gratitude with a perspective taking exercise in which people consider their distant descendants, and contemplate how the choices we make today will impact those descendants.

In both cases, a key intervention element is using writing exercises to encourage people to think *concretely* about the distant past or future. Psychological research demonstrates that

people tend to think about the here and now using *low level construal*, whereas they think about other people, faraway places, and distant times using *high level construal*. For instance, asked to think about their goals for today, someone might report their to-do list. Asked about their goals for a day ten years from now, they might instead report the desire to be happy and fulfilled (Liberman & Trope, 2008; Macrae et al., 2015). Inducing people to use low-level construal when thinking about others' experiences sharpens empathy, improving people's ability to see others as they see themselves (Eyal & Epley, 2010). We believe that low level construal will be a key ingredient of trans-generational empathy building as well.

Preliminary intervention details. Our intervention will build on work by Andrew Todd and colleagues, who use writing exercises to induce people to vividly take the perspective of people who differ from themselves (e.g., members of other races; see A.R. Todd, Bodenhausen, Richeson, & Galinsky, 2011; A.R. Todd, Hanko, Galinsky, & Mussweiler, 2011). As a first step, participants will be asked to research their ancestors – this could be conducted in collaboration with an organization such as Ancestry.com – and nominate an ancestor who made sacrifices for future generations of her or his family. They will then be asked to write a paragraph about that ancestor in general terms, and finally to write a paragraph about a day in that person's life, using a low level of construal. A sample writing prompt might be:

Now we would like you to write about a day in the life of [ancestor]. Imagine what they would do during that day, and which experiences they would have. Please write in the first person, as though it is you taking these actions and having these experiences. Please also focus on concrete details of their day, again as if experiencing them yourself. What do you see, hear, do, think, and feel? Please spend about 5-10 minutes on this exercise.

Following this exercise, we will ask people to rate their levels of gratitude towards their ancestor, using scales adapted from previous studies (Bartlett & DeSteno, 2006). Finally, participants will be asked to imagine a day in the life of a descendent of theirs who is temporally equidistant to them vis-à-vis the ancestor they had already imagined. For instance, if their first exercise comprised writing about a great grandparent, participants would be asked to write about a great grandchild. As in the previous exercise, participants would be asked to adopt a first-person perspective and low level construal, inducing the kind of vivid perspective taking that supports empathy.

After these exercises, we will test two main hypotheses (i) the exercise will induce people feel increased empathy for future generations, and (ii) it will increase long-term focus in

their decision making and willingness to sacrifice short-term outcomes for inter-generational goals. To measure the first hypothesis, we will adapt the Interpersonal Reactivity Index – the most popular self-reported measure of empathy – to ask people about their concern for individuals now and those in the distant future (Davis, 1983). One simple way to measure long-term decision-making would be to adapt inter-temporal monetary decisions like the ones described above to inter-generational timespans. But we will also explore other non-monetary assays of willingness to sacrifice for long term outcomes. Finally, we will measure whether shifts in empathy explain bolstered long-term thinking, which would confirm that Longpath thinking here is driven by positively-pointed emotion.

Awe for vast temporal horizons. A second, more speculative approach to building long-term emotion centers on the experience of awe. As described above, initial evidence suggests that awe inspires generous and spiritual behaviors. However, these experiments typically induce awe through *spatial* means, for instance by reminding people of the vastness of the universe. An interesting target for Longpath would be to instead orient people towards *temporal vastness*: reminding them how brief our own experiences are when viewed from a geological timescale.

When people are oriented towards a short time horizon – for instance, by considering their mortality – they attempt to “cash in” emotionally, focusing on the most rewarding interactions and experiences available to them (Carstensen, 1995; Carstensen, Isaacowitz, & Charles, 1999). The intuition behind this intervention idea is that focusing people on an expansive time horizon might focus them in the opposite direction: towards goals that outlive themselves. One intervention that could stoke temporal awe would be to connect people with ideas – or physically, with objects – that exist on longer timescales than ourselves. Here we pursue that idea.

Preliminary intervention details. In this intervention, participants will be directed to think and write about living thing that exists on a timespan that transcends human experience. Methuselah, a California pine tree that, at ~5,000 years old, is considered the oldest living organism on the planet. Participants will read about Methuselah, as well as about historical projections of what California was like when it was a sapling – including the climate, animal life, and indigenous people living in the area. They will then be asked to imagine standing in front of Methuselah 5,000 years ago and write – as above, using concrete language and low construal level – about what they see, hear, smell, and feel, and about what it would have been

like to live in that time. Finally, participants will be asked to imagine what Methuselah – and the world around it – might look like 5,000 years from now.

Here, one possibility would be to encourage participants to think about multiple *possible* futures that depend on our decisions today. E.g., what will Methuselah and its surroundings look like if carbon emissions retain their current rate or rise further? Or if they decrease over the next century and beyond? After this writing exercise (versus a control exercise) we will measure participants' sense of awe using measures adapted from prior work (Piff et al., 2015; Valdesolo & Graham, 2014), and intergenerational decision-making using the same measures employed in the empathy work described above. We hypothesize that this induction will indeed encourage long-term thinking, and do so in particular by stoking a sense of awe.

Although we propose a low-tech, scalable intervention, this exercise is also highly amenable to the use of virtual reality, which is now more widely and cheaply available than ever. Jeremy Bailenson, for instance, has leveraged VR to build empathy for distant social targets (Oh, Bailenson, Weisz, & Zaki, 2016) and increase awareness of climate change (Bailey et al., 2015). The use of such technologies could boost the power of our interventions, building more powerful self-transcendent emotions, and changing decision-making accordingly.

In sum

Longpath is predicated on the idea that people *tend* to get stuck in short-term thinking, but that we *need* not settle for this limitation. There are many ways to cultivate long-term choices and priorities. We believe that one of the most powerful approaches, counterintuitively, is not to ignore or suppress our emotional nature, but instead to work *with* feelings, in a way that points them out of the Intertidal and towards a future that badly needs us.

REFERENCES

- Arrow, K. J., Cropper, M., Gollier, C., Groom, B., Heal, G. M., Newell, R. G., . . . Portney, P. (2013). How should benefits and costs be discounted in an intergenerational context? The views of an expert panel.
- Bailey, J. O., Bailenson, J. N., Flora, J., Armel, K. C., Voelker, D., & Reeves, B. (2015). The impact of vivid messages on reducing energy consumption related to hot water use. *Environment and Behavior*, 47(5), 570-592.

- Bartlett, M. Y., & DeSteno, D. (2006). Gratitude and Prosocial Behavior Helping When It Costs You. *Psychological Science*, 17(4), 319-325.
- Bechara, A., Damasio, H., & Damasio, A. R. (2000). Emotion, decision making and the orbitofrontal cortex. *Cerebral cortex*, 10(3), 295-307.
- Beshears, J., Choi, J. J., Laibson, D., & Madrian, B. C. (2009). The importance of default options for retirement saving outcomes: Evidence from the United States. In *Social security policy in a changing environment* (pp. 167-195): University of Chicago Press.
- Bloom, P. (2013, May 20th, 2013). The baby in the well: the case against empathy. *The New Yorker*, 20.
- Carstensen, L. L. (1995). Evidence for a life-span theory of socioemotional selectivity. *Current Directions in Psychological Science*, 4(5), 151-156.
- Carstensen, L. L., Isaacowitz, D. M., & Charles, S. T. (1999). Taking time seriously: A theory of socioemotional selectivity. *American Psychologist*, 54(3), 165.
- Cyders, M. A., & Smith, G. T. (2008). Emotion-based dispositions to rash action: Positive and negative urgency. *Psychological Bulletin*, 134(6), 807.
- Davis, M. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *J Pers Soc Psychol*, 44(1), 113-126.
- DeSteno, D. (2009). Social Emotions and Intertemporal Choice, "Hot" Mechanisms for Building Social and Economic Capital. *Current Directions in Psychological Science*, 18(5), 280-284.
- DeSteno, D., Li, Y., Dickens, L., & Lerner, J. S. (2014). Gratitude: A tool for reducing economic impatience. *Psychological Science*, 25(6), 1262-1267.
- Eyal, T., & Epley, N. (2010). How to seem telepathic: enabling mind reading by matching construal. *Psychol Sci*, 21(5), 700-705.
- Gable, S. L., & Reis, H. T. (2010). Good news! Capitalizing on positive events in an interpersonal context. *Advances in Experimental Social Psychology*, 42, 195-257.
- Gray, J. R. (1999). A bias toward short-term thinking in threat-related negative emotional states. *Personality and Social Psychology Bulletin*, 25(1), 65-75.
- Gross, J. J. (1998). Antecedent- and response-focused emotion regulation: divergent consequences for experience, expression, and physiology. *J Pers Soc Psychol*, 74(1), 224-237.
- Gross, J. J. (2015). Emotion regulation: Current status and future prospects. *Psychological Inquiry*, 26(1), 1-26.
- Hatfield, E., Cacioppo, J., & Rapson, R. (1994). *Emotional contagion*. Cambridge: Cambridge University Press
- Heatherton, T. F., Polivy, J., & Herman, C. P. (1991). Restraint, weight loss, and variability of body weight. *Journal of abnormal psychology*, 100(1), 78.
- Ho, S.-Y., Tong, E. M., & Jia, L. (2016). Authentic and hubristic pride: Differential effects on delay of gratification. *Emotion*, 16(8), 1147.
- Kable, J. W., & Glimcher, P. W. (2010). An "as soon as possible" effect in human intertemporal decision making: behavioral evidence and neural mechanisms. *J Neurophysiol*, 103(5), 2513-2531.
- Kant, I. (1785 / 2002). *Groundwork of the Metaphysics of Morals*. New Haven, CT: Yale University Press.

- Keltner, D., & Haidt, J. (2003). Approaching awe, a moral, spiritual, and aesthetic emotion. *Cognition & Emotion*, 17(2), 297-314.
- Laibson, D. (1997). Golden eggs and hyperbolic discounting. *Q J Econ*, 112(2), 443-478.
- Lieberman, N., & Trope, Y. (2008). The psychology of transcending the here and now. *Science*, 322(5905), 1201-1205.
- MacAskill, W. (2016). *Doing good better: How effective altruism can help you help others, do work that matters, and make smarter choices about giving back*: Penguin.
- Macrae, C. N., Mitchell, J. P., Tait, K. A., McNamara, D. L., Golubickis, M., Topalidis, P. P., & Christian, B. M. (2015). Turning I into me: Imagining your future self. *Consciousness and cognition*, 37, 207-213.
- Metcalfe, J., & Mischel, W. (1999). A hot/cool-system analysis of delay of gratification: dynamics of willpower. *Psychol Rev*, 106(1), 3-19.
- Mikulincer, M., Gillath, O., Halevy, V., Avihou, N., Avidan, S., & Eshkoli, N. (2001). Attachment theory and reactions to others' needs: Evidence that activation of the sense of attachment security promotes empathic responses. *Journal of personality and social psychology*, 81(6), 1205.
- Mikulincer, M., Shaver, P. R., Gillath, O., & Nitzberg, R. A. (2005). Attachment, caregiving, and altruism: boosting attachment security increases compassion and helping. *Journal of personality and social psychology*, 89(5), 817.
- Mischel, W., Shoda, Y., & Rodriguez, M. (1989). Delay of gratification in children. *Science*, 244(4907), 933.
- Oh, S. Y., Bailenson, J., Weisz, E., & Zaki, J. (2016). Virtually old: Embodied perspective taking and the reduction of ageism under threat. *Computers in Human Behavior*, 60, 398-410.
- Piff, P. K., Dietze, P., Feinberg, M., Stancato, D. M., & Keltner, D. (2015). Awe, the small self, and prosocial behavior. *Journal of personality and social psychology*, 108(6), 883.
- Revesz, R. L. (1999). Environmental regulation, cost-benefit analysis, and the discounting of human lives. *Columbia Law Review*, 941-1017.
- Rudd, M., Vohs, K. D., & Aaker, J. (2012). Awe expands people's perception of time, alters decision making, and enhances well-being. *Psychological Science*, 23(10), 1130-1136.
- Schumann, K., Zaki, J., & Dweck, C. S. (2014). Addressing the empathy deficit: Beliefs about the malleability of empathy predict effortful responses when empathy is challenging. *Journal of personality and social psychology*, 107(3), 475.
- Shiota, M. N., Keltner, D., & Mossman, A. (2007). The nature of awe: Elicitors, appraisals, and effects on self-concept. *Cognition and Emotion*, 21(5), 944-963.
- Singer, P. (2015). *The Most Good You Can Do: How Effective Altruism is Changing Ideas About Living Ethically*. New Haven, CT: Yale University Press.
- Slovic, P. (2007). If I look at the mass I will never act: Psychic numbing and genocide. *Judgment and Decision Making*, 2(2), 79-95.
- Slovic, P., Västfjäll, D., Erlandsson, A., & Gregory, R. (2017). Iconic photographs and the ebb and flow of empathic response to humanitarian disasters. *Proceedings of the National Academy of Sciences*, 114(4), 640-644.
- Small, D. A., & Loewenstein, G. (2003). Helping a victim or helping the victim: Altruism and identifiability. *Journal of Risk and Uncertainty*, 26(1), 5-16.

- Stellar, J. E., Gordon, A. M., Piff, P. K., Cordaro, D., Anderson, C. L., Bai, Y., . . . Keltner, D. (2017). Self-transcendent emotions and their social functions: Compassion, gratitude, and awe bind us to others through prosociality. *Emotion Review*, 1754073916684557.
- Tamir, M. (2009). What do people want to feel and why? Pleasure and utility in emotion regulation. *Current Directions in Psychological Science*, 18(2), 101-105.
- Todd, A. R., Bodenhausen, G. V., Richeson, J. A., & Galinsky, A. D. (2011). Perspective taking combats automatic expressions of racial bias. *Journal of personality and social psychology*, 100(6), 1027.
- Todd, A. R., Forstmann, M., Burgmer, P., Brooks, A. W., & Galinsky, A. D. (2015). Anxious and egocentric: How specific emotions influence perspective taking. *Journal of Experimental Psychology: General*, 144(2), 374.
- Todd, A. R., Hanco, K., Galinsky, A. D., & Mussweiler, T. (2011). When focusing on differences leads to similar perspectives. *Psychol Sci*, 22(1), 134-141.
10.1177/0956797610392929
- Trivers, R. (1971). The evolution of reciprocal altruism. *Quarterly Review of Biology*, 46, 35-57.
- Valdesolo, P., & Graham, J. (2014). Awe, uncertainty, and agency detection. *Psychological Science*, 25(1), 170-178.
- Van Cappellen, P., & Saroglou, V. (2012). Awe activates religious and spiritual feelings and behavioral intentions. *Psychology of Religion and Spirituality*, 4(3), 223.
- Zaki, J. (2014). Empathy: A motivated account. *Psychological Bulletin*, 140(6), 1608-1647.
- Zaki, J. (2016). Empathy is a moral force. In: Guilford Press.
- Zaki, J., & Cikara, M. (2015). Addressing empathic failures. *Current Directions in Psychological Science*, 24(471-476).
- Zaki, J., & Ochsner, K. (2016). Empathy. In L. F. Barrett, M. Lewis, & J. Haviland-Jones (Eds.), *The Handbook of Emotions* (4th ed., pp. 871-884).