# ISre International Society for Research on Emotion

# Emotion Researcher

ISRE's Sourcebook for Research on Emotion and Affect

http://emotionresearcher.com

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# Considering the Role of Emotions in Health Research and Policy

Carolyn Price & Eric A. Walle

Emotion and health make a natural pairing. Indeed, appreciating emotions is central to understanding human well-being. And yet, paradoxically, cross-fertilization between these fields has been slow to take root. For example, while it is true that psychiatrists have a tradition for considering psychological health of their patients, connecting mental and physical health is a somewhat recent development.

Empirical and theoretical research on this burgeoning topic of emotion research is evident by excellent recent issues from *Emotion Review* on emotions and health (January 2018; January 2016). We are fortunate to continue the discussion of this topic with two feature articles that provide useful tools and perspectives for examining the interrelations of emotion and health from different disciplines.

In our first feature article highlights work by Joshua Smyth, Andreas Neubauer, and Michael Russell that examines the relations of emotion with health-related outcomes. Importantly, the authors describe the use of a valuable tool for exploring the dynamics of these relations using Ecological Momentary Assessment. This valuable research tool allows researchers to ping participants to answer questions or take measurements. This methodology can be used by researchers to explore momentary within-person variability that may otherwise be lost in single assessments or longitudinal data across visits spread across longer periods of time. More broadly, Smyth and colleagues highlight the important role that EMA can play in facilitating high-quality, ecologically valid data collection in empirical research.

The second feature article provides an interdisciplinary perspective from emotion historian, Jules Evans. His piece considers the complex and historically rooted interrelations of emotion, health, well-being, public policy, and politics. Evans furthers his arguments by commenting on the experience of ecstasy. Interweaving current empirical research with historical and anthropological contexts, ecstatic experiences are shown to ebb and flow in personal value and acceptance in society. This changing perspective of ecstasy and other experiences highlights how the humanities can help shed light on current issues facing emotion and health by contextualizing practices and experiences in a way that science alone cannot.

**ISRE Spotlight**

In our spotlight article, Amrisha Vaish, Assistant Professor of Psychology at the University of Virginia, describes her research examining the ontogeny of moral and prosocial behaviors. With an multidisciplinary lens, Vaish focuses on three related prosocial mechanisms that facilitate cooperative behavior: sympathy, guilt, and forgiveness.

In this view, sympathy serves as a powerful motivator for the developing child to take action to alleviate the distress of a social partner. In a series of studies, Vaish and her colleagues demonstrate that infants respond to individuals who have been harmed even when no overt expressions of distress are present, but will not do so when displays of distress are present but unwarranted. However, when the infant is the cause of the harm, guilt functions to motivate the child to resolve the matter or make up for it later. In fact, infants prevented from repairing such harm show distress, suggesting that the infant wants to be the one to make amends. Finally, Vaish turns her attention to forgiveness, a process less studied in the emotion literature. Interestingly, children respond more favorably to victims who forgive a transgressor than those who spurn an apology. Thus, forgiveness serves the dual function of repairing the relationship with the transgressed as well as signaling to social observers that the harmed person is likely to be a cooperative partner in the future. In closing, Vaish poses important questions for researchers of child development, and emotion researchers more generally, to consider for studying cooperative behavior.

**ISRE Interview**

In this issue, we are also delighted to present an interview with Ronnie de Sousa, Professor Emeritus at the University of Toronto, and a very influential figure in the philosophy of emotion. The interview explores his childhood in Geneva and London, and his early academic career at Princeton and Toronto, where he began by working on the philosophy of belief, before turning his attention to emotion. At the time, emotion was a much neglected topic in philosophy: de Sousa describes what it was like working in what was then such a specialized area, and the excitement of discovering the opportunities for interdisciplinary work on emotion through attending early meetings of ISRE. In the interview, he also draws out some key themes his much cited book *The Rationality of Emotion* (1987), and shares his thoughts about recent developments in the philosophy of emotion. Finally, he discusses his own recent work on the philosophy of love and sexuality, and on the importance of language to emotion.

**Announcements**

We are happy to include another message from the ISRE Early Career Researchers Section (ECRS), and boy, have they been busy! The ECRS organized an emotion webinar series, featuring numerous prominent researchers across different disciplines. Based on the success of the sessions, the group is already planning for their 2020 series, so stay tuned. Additionally, the ECRS has worked to implement a mentoring program. This ambitious program pairs veteran researchers with younger ISRE members to help provide guidance and feedback on research, professional development, and life as an academic. These initiatives demonstrate exceptional leadership from our early career members and bodes well for the future of ISRE. Keep up the good work, ECRS!

Additionally, we hope that everyone is hard at work crafting their abstracts to submit to the next ISRE Conference. The 2019 meeting will take place July 10-13th in Amsterdam. We are grateful to the conference organizers, Agneta Fischer, Disa Sauter, and Annemiek Hoffer, for their hard work arranging the meeting. There is an excellent slate of keynote speakers planned,

featuring Carien van Reekum, Andrea Scarantino, and Dacher Keltner. The call for abstracts is currently open and the deadline to submit your proposal is November 12th, 2018. You can find more information at the conference website: https://www.isre2019.org

In our next issue we plan to focus on the specific emotion of *anger*. This emotion has adaptive roots, but also the potential for harm when utilized in inappropriate contexts. As usual, we will do our best to provide perspectives on this emotion from various disciplines to highlight how it is relevant across fields of study.

We wish everyone a productive and joyful close to 2018 and look forward to continuing to be a voice for ISRE and its membership in the coming year.

Warmly,

Carolyn & Eric



**Carolyn Price** is Senior Lecturer in Philosophy at the Open University (UK). Her research addresses a broad range of questions about emotions – what they are, what they tell us about the world, the norms by which we evaluate them, and (most recently) their relation to the self. She is also interested in particular types of emotions, – such as love, grief and regret. Her book *Emotion* (Polity) appeared in 2015.



**Eric Walle** is an Assistant Professor of Psychological Sciences at the University of California, Merced. His theoretical writings emphasize the functions of emotions, particularly in interpersonal contexts. His empirical work examines emotional development, principally in infancy and early childhood, as well as how individuals perceive and respond to emotional communication.

*ISRE Matters*

# ISRE Matters: A Note from your New President

Christine R. Harris

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I am deeply honored to have been elected President of ISRE. To fully appreciate why I feel as strongly about the Society as I do, it helps to know a little bit about the history of ISRE and my own path here.

ISRE began in 1984. Although the nature of emotions has been contemplated for millennia by poets, artists, philosophers, scholars, and just about anyone who has ever fallen in love, there was at that time no formal society devoted to the study of emotion or affective phenomenon. This was remedied when a group of researchers working separately on emotion decided to convene to discuss their common interests. Many of the world's most prominent emotion theorists attended, including Klaus Scherer, Nico Frijda, Joe Campos, Paul Ekman, Bernard Rimé, and Francois Bresson, among others. This meeting of minds gave rise to our society, which has been in existence ever since. In the beginning, the organization was small and elite, primarily a place for senior scholars to exchange ideas. Over time, membership rules were broadened to include junior scholars and students. All the while it has remained the premier society for the study of affect and emotion, broadly construed.

My own route to emotion research was a bit circuitous. My involvement in research before going to graduate school had chiefly involved psycholinguistics, and for a time I assumed I would pursue graduate studies in this area. I had been fascinated to work with adult and child populations suffering from various cognitive disorders. As I contemplated my direction, I came to realize that my true interest in the research questions of psycholinguistics was rather limited. As we all know, to be a successful academic, one

has to live and breathe one's research. Eager to identify what areas of psychology would more fully capture my imagination (or perhaps my heart), I spent considerable time in the university library (yes, libraries were still a place that people went to back then) browsing journal abstracts. This is where I discovered emotion research – and I've been hooked ever since.

When I sought membership to ISRE, I was 5 years post-Ph.D. and had published work on emotion (both requirements at the time) but I still needed a sponsor who was a member.

Having not been reared in an emotion laboratory, I did not know other emotion researchers personally, although I had read a great deal of the emotion literature. My closest personal connection to the field, it seemed, was that Stanley Schachter was technically my academic grandfather. That didn't seem like a promising connection to rely upon, however, since in my first year of graduate school I had presented on the famous Schachter and Singer experiment of 1962 and argued that the study was deeply flawed on both empirical and conceptual levels. Fortunately, more careful study of the ISRE membership list turned up a distinguished colleague in another department at UCSD, Roy D'Andrade. Roy spoke highly of ISRE and kindly agreed to help me out.

Becoming a member of ISRE was nothing short of thrilling to me. I could finally go and talk with other people who had similar interests. I could meet the very people whose work I had been reading for years. I found it an incredibly stimulating and welcoming place. It didn't matter that I didn't know anyone and that I had been a bit of a wild child, having educated myself about emotion independent of any particular intellectual faction in the field. I was eventually asked to serve as the editor of this newsletter. In doing so, I got to know many of the members of ISRE. After 5 years, I left that post to take on Editor of *Emotion Review*. These were not easy tasks, but they were rewarding and they helped shape in me a deep and loyal connection to ISRE.

And now I have the opportunity to serve as president. I tell this story partly to let people who come from underrepresented countries or fields, or who have been working alone in the area, or people who are new to emotion research and don't know anyone, that this society is for you.

While some academic organizations are filled with cliques that promote their own and dampen the voices of others outside their faction, I think you will find that ISRE is a strikingly open academic society that welcomes diversity and friendly debate in all of its various forums.

**Articles on Health and Well-being**

Health matters to us all and the older you get the more it will matter as its permanency becomes increasingly uncertain. This issue of the ER presents thought-provoking, well-written articles. They take very different approaches to the topic and underscore how much can be gained when we hear from people from different disciplines.

The first piece by Smyth, Nuebauer, and Russell brings up a number of excellent points that are useful not just to health researchers but to the emotion community at large. This piece highlights that emotions are dynamic processes that *occur in particular contexts*. It nicely illustrates that we can improve our predictive power when we consider that retrospective assessments of our own emotional experience can differ qualitatively from momentary assessments, with each measure potentially predicting different outcomes. I particularly resonated with the authors' observation that intrapersonal variability can be informative. Most of us who employ traditional statistics tend to focus on averages with little thought to variability within or across individuals – unless that variability gets in the way of our crossing the $p < .05$ threshold. This article demonstrates that there are times when examining individuals or variability within an individual can be quite useful.

This point was brought home to me on a personal level when I was working on dread and temporal discounting. Previous studies had reported averages for how long people wanted to wait before undergoing unpleasant experiences. I discovered that almost no one in my sample fit the average. Instead, there was clear evidence of a bimodal distribution. Some people wanted to get their physical or psychological suffering over immediately, while others preferred to wait until the very last possible moment. Interestingly, when it came to money almost everyone was rational, seeking to postpone the loss as far into the future as possible and take the reward as soon as possible.

Professor Christine Harris, October 2018

The provocative article by Jules Evans exquisitely illustrates how scholars from the humanities can help to keep our scientific thinking balanced. Otherwise, we are in danger of assuming that whatever historical or cultural context that we find ourselves in is the only possible context. Here, as in the previous article, we see the importance of recognizing variability in human experience. In a time where support for the humanities within universities is decreasing, we are reminded of how much we would lose, not just as scholars of emotion but as people, if we lost the best work emerging from humanities scholars. They remind us of the mistakes of history and of the origins of ideas; they grapple with morality, spirituality, and what it means to live a good and meaningful life, and they caution us against taking any single aspect of current doctrine and imagining it to be a panacea to cure human misery.

**Exciting Things Afoot!**

1) Our next conference will be held in Amsterdam next summer (beginning July 10, 2019). We are deeply grateful to Agneta Fischer, Disa Sauter, and Annemiek Hoffer from the University of Amsterdam for organizing the conference. Please note that submission

proposals are due soon, November 12, 2018! The conference is sure to be intellectually stimulating and the city is a beautiful and fun venue.

https://www.isre2019.org

2) We are working on a new website and listserv for the society, which will greatly improve the functionality of everything from paying dues to seeing the latest emotion news. Searching for other members will also be a breeze. Speaking of which, I strongly urge you to complete your biographical information when we launch it. Membership searches can be used for all kinds of useful things, including looking for collaborators or authors for chapters or special sections in journals. When I was editor of *Emotion Review*, I used to wish that it was easier to search out members working in a particular field or on a specific topic to serve as authors of target articles, commentaries, or reviewers. We will now have that ability but it depends on you making sure we know who you are and what you do.

One of the late US Presidents, John F. Kennedy, famously said, "Ask not what your country can do for you – ask what you can do for your country." I'd like to alter that to say it is okay to ask what our society can do for you (answer = a lot) but you also might ask what you can do for ISRE. Our organization is built up of volunteers. Without people willing to give selflessly of their time, we would have no journal, no newsletter, no society, no conferences, no place to openly discuss the issues of emotion that we all care so much about. So, when the new website is up and you are asked whether you would be interested in volunteering in some capacity, please make a commitment to do so.

3) Our journal, *Emotion Review,* is doing fabulously, with a 5-year impact factor of 5.13. I strongly encourage people from different disciplines to join together to write pieces for it. The current issue focuses on brain research from different theoretical perspectives – well worth a look! One perk of membership is receipt of the journal so if you have not joined yet, this would be a great time to do so.

# ISRE Early Career Researchers Section: Updates on Recent Initiatives

Tanja S. H. Wingenbach, Michael Boiger, Melina West, Claire Ashley, & Heather J. Nuske

This past summer, the Early Career Researcher Section of ISRE launched two new initiatives for the society based on discussions of student needs at ISRE 2017.

The first was the Emotion Webinar Series, which included 8 webinars on topics of great interest to our members, including emotional expression (Dacher Keltner and Ross Buck), psychophysiology (Frank Wilhelm), emotional development (Joseph Campos), aesthetics and emotion (Gerald Cupchik), emotion regulation (Khosla Meetu), emotional intelligence (José Mestre), moral emotions (Roger Giner-Sorolla), and gender and emotion (Agneta Fischer and Stephanie Shields). We had many graduate students, postdocs and students/faculty at other levels join the webinar from all over the globe, and engage with many thoughtful questions and discussions. Videos of the webinars and PDFs of the slides will be available for viewing/download for ISRE members via the new ISRE website (currently under construction). Excitingly, due to the success of the webinar series, we plan to run a webinar series again during the next conference off-year (2020).

Our second inaugural initiative from this year was a mentoring program for students which paired students with professors based on their preferences in terms of content (what they needed mentoring on) and structure (how often and in when they were available to meet). Mentoring pairs meet regularly to discuss specific topics, such as affective neuroscience, appraisal theory, or cross-cultural emotion research, get feedback on specific projects or project design, or ask advice about professional development, such as job seeking, developing an independent research program, or just making it through grad school.

We are incredibly grateful to all of our webinar speakers and mentors for giving their time for these initiatives. Thank you also to early career researchers for engaging in these initiatives. Jointly, you all made these initiatives possible. Next, we plan to implement a number of awards for early career researchers, including a thesis, publication and poster award. The poster award will be linked to next year's ISRE conference in Amsterdam.

Are you an early career emotion scientist or faculty that support early career emotion scientists? Join our Facebook page: **https://www.facebook.com/groups/ISRE.JRS/?ref=br_rs**

For other questions or comments, please email Heather Nuske (hjnuske@upenn.edu) or Tanja Wingenbach (tanja.wingenbach@bath.edu)



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Research Interests: Emotion processing; child development



**Claire Ashley**
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Research Interests: Emotion processing; mental health

*ISRE Interview*

# The Rationality of Emotion: Biology, Ideology and Emotional Truth

## Ronald de Sousa

An interview with Carolyn Price
(August 2018)

*Ronald (Ronnie) de Sousa is an Emeritus Professor at the Department of Philosophy of the University of Toronto, which he joined in 1966. He is a past president of the Canadian Philosophical Society and a Fellow of the Royal Society of Canada. He is well known for his work on the philosophy of emotion: his book The Rationality of Emotion, published in 1987, offered a ground-breaking alternative to the judgement and belief-based theories of emotion and remains an important point of reference today. In this book, he defended a view of emotion as both functional and rational, and urged that emotion must be understood in its own terms, not reduced to other psychological categories. Since then, he has published on evolution and rationality, on emotional truth, and on love.*

**What was your childhood like, where did you grow up, what did your parents do, what was your family like? What were those early years like for you and your family?**

My mother was a native of Geneva, Switzerland, now the home of CISA , Geneva's Empire of the Emotions. As dictated by the custom of the day, she wasted her considerable intellectual talents being a "housewife". My father, whose parents were Portuguese, was born in Plymouth, which made him English. I was born in Geneva. This also made me English – proving that different causes can have the same effect. My father worked for ALCAN, the Aluminium Co. of Canada. (It is another coincidence that I settled in Canada.) I was the third of four children. But I didn't see my siblings all that much, because I
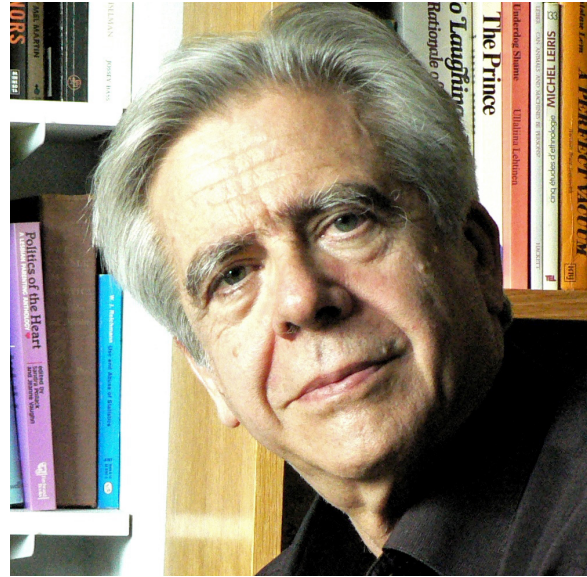
Professor Ronald de Sousa

spent most of my time away at boarding schools. I was sent to the first such school at the age of eight. Alcan transferred my father to London, and I was sent ahead to the "prep school" affiliated with a Jesuit public school (in the English sense, which is the opposite of the American). Thus I learned English by immersion early enough to become a native speaker, a feat easily achieved by anyone under 10 years old or so, but almost impossible after the age of 12. I was happy enough there, despite the regime of relatively mild corporal punishment. It worked like this. Upon committing an infraction of the school rules (collected in a tiny blue booklet, and of which the last was: "A breach of common sense is a breach of the School Rules"), one was mandated to request, at one's convenience, "three ferulas" from the Father Superior. You knocked at his big oak door, and when summoned, said: "Please Father may I have three ferulas." The Father Superior would instruct you to present the palms of your hands, at which his practised aim insured that the large thick leather strap he extracted from a drawer produced a satisfying thwack. You then thanked the Father Superior and departed, and on that one occasion, there was tolerance for hands in your pocket.

About half way through the first trimester, in my obligatory weekly letter home, I explained that the Catholic Church was the only authentic Christian institution. I had the proof, which I remember vividly: The Church had been founded

by Jesus Christ "upon this rock, Peter"; and the popes were simply the successors of Peter. Q.E.D. My mother was not religious, but she had osmotically assimilated opinions of Jesuits still widespread in the city of Calvin. As a result my parents withdrew me from that school at the end of term. My Latin never recovered. More relocations followed, which ultimately brought me to the International School of Geneva. There, on the basis of an essay I had written about something in Montaigne, my teacher informed me that I was a philosopher. It followed that I must switch from the Swiss to the French curriculum, which included a year of philosophy. Or at any rate something called "Philosophie".

Thus it came to be that my school leaving certificate was a French Baccalauréat, and that it never occurred to me to doubt my philosophical vocation. The French curriculum did not, however, equip me with the level of Latin and Greek expected of students in Literae Humaniores, or "Greats", as it is known. So I did a three year degree, in which the study of



A young de Sousa on his first pair of skis, 1945.

philosophy and ancient history was preceded by only two terms rather than two years of strictly classical studies. At the end of which it appeared that the next thing one did was to go and spend a year in America. I did so, without ever actually deciding to do so, and soon discovered that I was enrolled in something called a PhD program which, to my astonishment, would somehow be completely free of charge. In those mythical days long ago, there were more jobs than applicants. One of my teachers, the wonderful Plato scholar Gregory Vlastos, wrote to a couple of friends in Canada, and that is how I found myself in Toronto. So again, there didn't seem to be anything to decide.

Ever since I have wondered: would I have made it on my own merits?

**You studied for your PhD at Princeton, and worked there for a year. What was your experience like? What was your thesis topic and what did you learn from writing it?**

Princeton graduate students were somewhat looked down on by Princeton undergraduates as socially inferior grinds. (I'm not sure there were nerds yet). We were quarantined in the Graduate College, a Neo Gothic structure about half a mile from campus, where we wore academic gowns to dinner. But the philosophy department was very intense. Seminars were loud and combative, and, of course, there were no women! An astounding thing to recall. (But a fine thing indeed, that we now do find that astounding.) We learned about the philosophy of science from Carl Hempel ; our Greek philosophy from Gregory Vlastos; our logic and philosophy of mathematics from Paul Benacerraf (whose sole comment on my first paper was so withering that I chose him to be my thesis supervisor). Our philosophy of mind came from Stuart Hampshire and from visiting stints by Bernard Williams and Wilfrid Sellars, whom Richard Rorty got us to study intensively. We would interrogate Sellars at weekly lunches.

My thesis was in the philosophy of language which at that time resonated mightily with the clamour of the Chomskyan revolution, as well as Quine's provocative doctrine about the indeterminacy of radical translation. It was also the time when Saul Kripke revolutionized the theory of reference, and would stop one in the

hallway to pose deceptively simple little paradoxes that kept us talking for days. He taught us, for example, why it was logically and semantically possible that the Iliad and the Odyssey were not composed by Homer, but by another author of the same name. This was at the height of the movement in philosophy famously described by Richard Rorty in an anthology he edited as "the linguistic turn." This fitted in quite well with the influence of my undergraduate training at Oxford, which was still dominated by Gilbert Ryle, although in my case his influence was very much tempered by the far more rigourous intellectual example of David Wiggins. I still thought that the study of language should be the central tool of philosophy. In those days, the program still required comprehensive examinations. Those provided a wonderful if evanescent illusion of understanding how every aspect of philosophy related to every other. (An epiphany of the sort that nowadays, in the absence of truly comprehensive graduate exams, are afforded only with chemical aids.)

**You first began working at Toronto in 1966. What was your experience there? Who were your close colleagues? Where there particular people or publications that inspired you as you were starting out?**

After completing my PhD, I assumed I would continue thinking and writing about language. But unlike today's new PhD's who are compelled by the job market to mine their dissertations for publications to adorn their CV, I experienced no immediate pressure to publish. (Just one chapter of my thesis was published before the thesis was complete, and five years elapsed before I published anything else). One day I got intrigued by a footnote in a colleague's article about Chisholm on belief. The meditations sparked by that footnote led to five years of work on the relationship between on/off assent and Bayesian degrees of confidence. I still think this was one of my best papers, and it was made possible by what I experienced as a wonderful period of freedom. There were a number of young colleagues who had been hired within a year or two of me, including such luminaries as David Gauthier and Wayne Sumner (who was also in my cohort at Princeton but finished one year ahead of me.) We

A candid glimpse of 16-year-old Ronnie de Sousa.

"young Turks" formed a little seminar we called the Vicious Circle, in which each in turn would present work in progress for others to shred.

**When did you first turn your attention to emotion? What was it that drew you to it?**

In those first years, apart from the paper on belief, I wrote about the difference between the good and the true; about Freud; about self-deception; and about Thomas Szasz and the anti-psychiatry movement. As I have always taken the view that philosophy is an intellectual poaching license, I enjoyed pretty much every aspect of analytic philosophy. (My French background did not, alas, ever bestow on me the gift of deciphering the opaque vaticinations of French philosophy after Sartre). It dawned on me that the topic of emotion would provide a pretense of specialization while inviting me to think, like a true dilettante, about just about everything: mind, language, epistemology, ethics, aesthetics, metaphysics, and even life. So that's when I

started thinking about emotions. I wrote an article on "The Rationality of Emotions", which was published in 1979. The central idea was that emotions have a narrative structure and tend to rehearse "paradigm scenarios" learned in early life. This remained the core idea of *The Rationality of Emotion*, much of which was written during a blissful sabbatical year spent at the University of British Columbia in 1984. The book was published in 1987 by Bradford Books, a wonderful small press which was in the process of being absorbed by MIT.

**Not many philosophers were paying attention to emotion at that point. How was your work received? Were there other philosophers/ researchers you were able to discuss your views with?**

I met Bob Solomon pretty early on, before his book came out, and I had been in touch with Amélie Rorty ever since my Princeton days when she was married to Dick Rorty. From that time I treasured the memory of many wonderful Sunday brunch conversations in their house and I was very sorry they split up, as I was very fond of both of them. Dick Rorty veered off into styles of philosophy that were less congenial to my own, and although both remained friends I felt more philosophical kinship with Amélie and kept up — and continue to keep up — with her much more consistently over the years. It was she who first introduced me to ISRE, which I didn't join until a two or three years after it was founded. But my first attendance at one of their meetings — I remember it was at Rutgers in New Brunswick, but I don't recall the year—was a wonderful experience, because the idea of interdisciplinary research was such a compelling one. Thereafter the ISRE meetings — hearing from so many great and forceful personalities, Ekman, Panksepp, William Miller, Campos, Ed Diener, and many others — were always a highlight in my academic year.

**Your book *The Rationality of Emotion* (1989) has been a reference point for philosophers working in emotion ever since it was published, and has inspired a great deal of further research. What do you think were the most influential ideas in the book? Is there**

**anything you think was overlooked? Is there anything you'd change?**

*The Rationality of Emotions* explored two simple ideas, with a few corollaries. First, emotions play too important a role in our life not to be linked to some biological function. Second, whatever function that might be affects our capacity to make intelligent decisions in complex situations, not just to respond reflexively to threats or affordances of daily life. Emotions, I suggested, solve the "Frame Problem", which is essentially the problem of knowing what to ignore without wasting time examining every possible consequence of a decision, to make sure it can be ignored as irrelevant. Emotions do this by controlling the salience of information, lines of inquiry, and live practical options. They narrow the focus of attention to ranges of factors that we have "learned", on both the evolutionary and the individual scale, are the most likely to be relevant in any given situation. Emotions therefore contribute to our capacity for rational decision, even though, as is all too obvious, they sometimes distort judgement and interfere with rational deliberation. Emotions can also be said to be "rational" – contrasting not with "irrational" but with "a-rational" – in a second sense, more or

THE
RATIONALITY
OF EMOTION

Ronald de Sousa
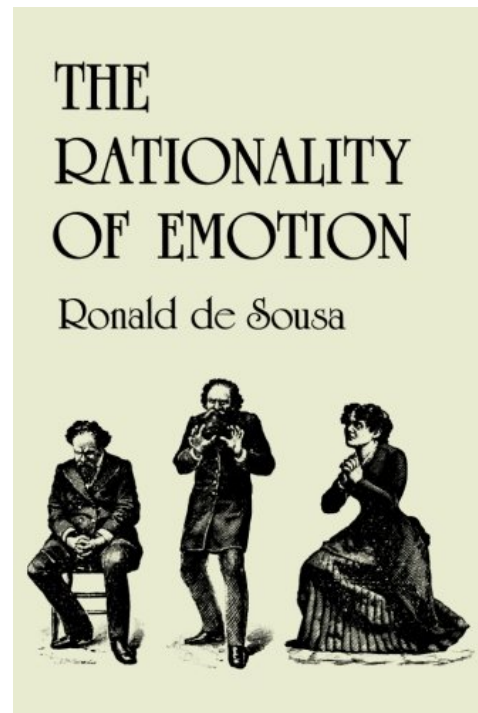
less corresponding to what we mean when we describe someone as "reasonable" or "unreasonable".

Although the book is quite frequently cited, I'm not sure it has been particularly influential. One idea that has been picked up here and there is the idea of "paradigm scenarios". Probably the reason this has been picked up his that it was not particularly original in the first place. The core idea goes back to Freud, if not to Aristotle. On the therapeutic side of psychology it has often, if not always, been regarded as obvious that emotional patterns first learned in early childhood can be difficult to shake – both for good and for ill. Several philosophers, notably Martha Nussbaum, have emphasized the role of art and literature in getting us to refine and modify our more primitive patterns of emotional response and the attitudes that go with them. But the idea was, and remains, underdeveloped. I myself explored some of the problems it raises myself in a paper on "Emotions, Education and Time" published in *Metaphilosophy* in 1990, which Google scholar tells me has been cited a few times, but of which


Ronnie de Sousa in Toronto, 1970.

I have never actually seen a discussion. Paradigm scenarios raise questions about flexibility in personality and emotional temperament which are vital to educational practice: How is it possible to control one's emotions, to mature emotionally? Much also remains to be done to understand how *similarity* among situations, triggering similar responses, is implemented in the brain. Recently I have been very interested in the extent to which we can "re-gestalt" situations in such a way as to refashion our emotional responses. This is a domain in which emotional constructionists have much to teach us. We need to be aware of the extent to which we ascribe emotions, not only to others but even to ourselves, in the light of half conscious assumptions about how we are *supposed* to respond. Our emotional repertoire is partly dependent on our ideology.

**Not many philosophers were paying attention to emotion at that point. How was your work received? Were there other philosophers/ researchers you were able to discuss your views with?**

There had actually been important work by philosophers on emotions in the preceding decades. Anthony Kenny's *Action, Emotion, and Will,* first published in 1963, incorporated important insights from mediaeval conceptions of intentionality. It was very influential, on me and others. Other important philosophers, including several late and current members of ISRE, had written on related themes, notably Arnold Isenberg, Adam Morton, Patricia Greenspan, Richard Wollheim, Gabriele Taylor, Annette Baier, Jerome Neu, Lawrence Blum, and, most importantly, Amélie Oxenberg Rorty. Rorty collected some of these philosophers' works, together with representative extracts from psychologists Paul Ekman, Paul MacLean, and James Averill, in her important 1980 anthology, *Explaining Emotions*. Robert Solomon's book on *The Passions: Emotions and the Meaning of Life* had first come out in 1976. This was something of a provocation, offering a doubly outrageous view. His first proposition was that emotions were judgements – a special category of evaluative judgments, to be sure, but still

judgments. The second proposition, on the face of it incompatible with the first, was that emotions were chosen: that we were responsible for them as for any intentional action. This was a radical existentialist position that flouted philosophical orthodoxy. And although Solomon continued to describe himself as an existentialist to the end of his life, his position later became much more nuanced. He set a wonderful example to other philosophers by being open to empirical findings in neighbouring disciplines—an attitude which I am glad to say is now pretty much universeal among philosophers working on emotions.

In short, it would be an exaggeration to claim that my book started anything, but I think I was extremely lucky to have become interested in emotions when the number of people working in that area was small enough to keep up with. That is now, alas, impossible for all but intellectual Stakhanovites.

**One very influential idea in the book was that in some important ways, emotions are much closer to perception than judgement. In recent years, some philosophers have argued that emotion just is a form of perception. What's your view of the way in which that idea has been developed since the book was published?**

There have been several versions proffered of perceptual theories. One was put forward by Jesse Prinz, who, however, now rejects it. Prinz's early view made use of some ideas of Fred Dretske's about mental representation. It rested on William James's proposal that emotions are essentially perceptions of bodily states, which in turn are responses to something in the world. The representational component of emotions was then derived from the indicative properties of the bodily state in question, without requiring that one be consciously aware of those bodily states.

The leading contemporary exponent of the perceptual view is Christine Tappolet, who argues in her most recent book that emotions are essentially perceptions of values. They are therefore susceptible to being either correct or incorrect, depending on whether the value perceived in a given situation or state of affairs is warranted by that situation or state of affairs. This seems to me to be a very nice idea; but I am not convinced that it has any ontological

implications. It may seem that if values are perceived, then they must be real and independent of our projections. But perhaps this may signal nothing more than a kind of grammatical fact about the relation between emotions and their "formal objects".

I am inclined to emphasize the metaphorical character of the analogy between emotions and perception. Analogies are useful in getting us to notice both resemblances and differences. But they don't really explain anything, and shouldn't be taken to do more than they can.

**Another important theme that has emerged in your writings on emotion is that of emotional truth, which you've explained in terms of 'axiological holism' Can you explain what you mean by that? And why has articulating a notion of emotional truth been important to you?**

Insofar as I do agree with Tappolet that emotions are prima facie apprehensions of value, their rationality will be neither purely cognitive nor purely practical, but rather *axiological*. This raises the question of how our values can be appraised, reappraised, refined, or improved, when the material for doing so ultimately derives from emotions themselves. The thought behind the notion of axiological holism is that *all* our emotional responses, including all the reasoning and argument that we might bring to debates about their justification, are potentially relevant to our evaluative stance as we face the world. Reflective equilibrium is the best we can hope for in the realm of values, just as, if we give up on epistemic foundationalism and the naïve correspondence theory of truth, epistemic coherence is the best we can aspire to in science.

My thoughts about emotional truth embody a further parallel between emotion and cognition: just as coherence in beliefs guarantees (only) that they *could* all be true together, so axiological coherence requires that our emotions *could* all be "correct" together in a relevant sense of correctness. That correctness is what I choose to call emotional truth. The idea actually arose from some earlier work I published in *Mind* in 1974. Typical intentional states, notably including belief and desire, have both conditions of satisfaction (a correspondence between the

representational content of the state and the objective situation they purport to refer to), and conditions of success (which depends on whether the state in question meets its own inherent point, or defining standard of correctness). For belief, both of these coincide: the truth of a proposition constitutes its satisfaction, and it is also sufficient for its success as a state of belief, because belief inherently *aims* at truth. Desire, by contrast, aims at goodness. So for desire, unlike belief, the two conditions diverge. If I desire something that is not good and get it, then my desire is satisfied, but it was not successful. A similar pattern, it seemed to me, holds for any typical emotion: its formal object both identifies the emotion in question and specifies its condition of success. Thus if "the dangerous" is the proper object of fear, fear will be successful in its own terms only if its target is indeed dangerous. My proposal was that we should focus on the notion of success, and hence extend talk of truth to an emotion in the light of is success or failure in its inherent point. In truth, this idea has gained little traction. In a very sensible article, Mikko Salmela pointed out that it would seem more natural to speak of "true emotions" if and only if they satisfied *both* satisfaction *and* success. Since this is to some extent a verbal issue I chose in my later book to dig my heels in. My reason was that I wanted to suggest that the important dimension in which we should evaluate emotions was the one that measured fittingness, not the one that measured their – much disputed – representational function.

**You've defended what you've called an Aristotelian approach to the relationship between emotions and ethics. Can you explain what that is? What attracts you to that position?**

There seem to me two things about Aristotle's view of moral development that are particularly insightful. One is that virtue is a matter of habits; the second is that habits are acquired. In effect, the habits acquired by an Aristotelian curriculum of moral education will be emotional dispositions, which will concentrate our attention on only certain aspects of any given situation, and at the same time to entertain only certain sorts of responses. So really what I borrow

from Aristotle is pretty standard and rather simple.

**Another important theme in your work – which has come to the fore in recent years – has been your writings on love and sexuality. What drew you to that topic? Do you think that philosophers have an important contribution to make to current public debate on sexual politics?**

I started thinking about love and sexuality pretty much at the same time as I was writing my first book. *The Rationality Of Emotion* contains an "Interlude", which is a dialogue about (what was not yet known as) "polyamory". In that dialogue I tried my best to find plausible arguments in favour of monogamy and sexual exclusiveness. Emulating Hume, with his reluctance to make clear which side he was on in his *Dialogues Concerning Natural Religion,* I hedged my utter failure to find any such arguments by pretending that there was "good on both sides". But yes, indeed, I believe that philosophy has a very important rôle to play in the conduct of life. This is a very ancient stance that contemporary analytic philosophers sometimes disdain. But for me that is a vital aspect of what makes philosophy worth pursuing. In terms of attitudes to sexuality, I believe that despite the hypersexualization of our culture, the majority view remains that, as William Blake expressed it, "love, sweet love, [is] thought a crime." Sex phobia has taken different forms at different times, but it is as virulent and destructive as ever. This may be changing, and I greatly admire those very few philosophers who have had the courage not only to argue the case for polyamory but to come out as practicing it themselves. To expose the hypocrisies and the fundamental incoherence of "official" attitudes to love and sex is a worthy goal of philosophers as public intellectuals, and one of the most important ways in which we can make our profession relevant to our lives.

**You are also working on emotion and language. Can you tell me something about your research on that?**

My current research, supported by the Social Sciences and Humanities Research Council of Canada (SSHRCC, pronounced "shirk"), aims to explore the complex relations between language and emotion in the light of the "dual processing hypothesis" (recently made very familiar by Daniel Kahneman's *Thinking Fast and* Slow) . The DPH distinguishes Intuitive from Analytic forms of mental processing. Intuitive processes effect efficient manipulations of the real world, but may not be adapted to deal with radically novel situations: these may require fresh concepts and the sort of explicit reasoning afforded by Analytic thinking. It is easily assumed that emotions should be thought of as belonging to the intuitive system. But that doesn't neatly fit the facts. The awkward fit between emotions and explicit reasons is evident to common sense; but the complex ways in which emotions weave through both intuitive and analytic tracks have received scant attention.

The central thesis I want to explore is that to a considerable extent, our emotional life is conditioned by *ideology,* which in turn is shaped to some (but exactly how large?) extent by *words*. My use of 'ideology' is admittedly eccentric: I mean it to pick out especially a widespread tendency to take what are actually arbitrary *norms* to be necessary consequences of natural facts, such as "humans are a monogamous species". (Think of the "Mismeasure of Woman" and "Delusions of Gender" so brilliantly exposed respectively by – among many others – Carol Tavris or Cordelia Fine in the books that bear those titles.) A leading question concerns the extent to which that ideology is dependent on and malleable on the basis of explicit norms. How, for example, can an experience of indignation, envy, love or jealousy be explicitly rationalized? Emotions are modulated by verbal expressions and descriptions. They also influence behaviour, both intentional and reflexive. The ways in which they do this raise a number of puzzles. One stems from our susceptibility to recalcitrant emotions, i.e. those that subsist despite the removal of their cognitive basis. Another is "imaginative resistance", which is our inability, first noticed by David Hume, to *imagine* ourselves endorsing judgments that conflict with our current evaluative and moral commitments. Both raise the question of how our explicit reasons relate to our felt emotions. Yet another example stems from the difficulty of communicating aesthetic judgments by explicit verbal description of works of art, as well as the converse question of the ability of art and literature to influence our emotional repertoire. Other issues concerning the relation of language to emotion pertain to the norms governing acceptable emotional responses and expressions, such as the quasi-moral demands for sincerity, spontaneity, and emotional authenticity; the culturally variable aesthetics of understatement; the contrary effects on erotic experience of explicit sexual language in different 'registers'; the power of verbal information on the effects of drugs; the effects of 'priming' (subliminal exposure to certain words) on cognition and behaviour; and the surprising enhancement of well-being by sessions spent in writing about emotionally trying experiences demonstrated by some of the work of Jim Pennebaker. All of these phenomena call for a general theory of the way that our emotions relate to our capacity to reason explicitly about them, as well as to their verbal expressions.

**What do you think that philosophers can bring to emotion research? And conversely, in what ways do you think your own work on emotion has been influenced by empirical research on emotion?**

Things have changed a great deal in philosophy since Willard Van Orman Quine demolished the idea that a barrier between analytic and synthetic judgments (a priori and a posteriori knowledge, necessary and contingent truths) must forever isolate philosophy, as
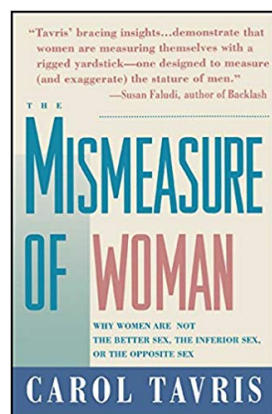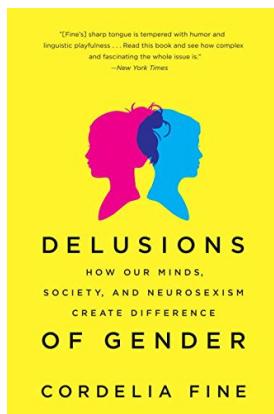
conceptual analysis, from empirical investigation. It seems to me clear that the list of questions I just gave could not be answered simply by armchair philosophizing. Philosophers need to know what scientific research reveals. We philosophers like to let other people to do the hard work; but at least, and this has certainly changed a good deal in the last half century, we now recognize that the hard work must be done and that we must pay attention to it. Conversely, science cannot evade challenges that stem from conceptual critiques. What we philosophers take from scientific investigation often deserves scrutiny for clarity and conceptual coherence. Philosophy is a central part of cognitive science. Neither the conceptual nor the empirical can be ignored. And, as the current rise of "X-phi" and "conceptual engineering" illustrates, we should not forget the pragmatic aspects of our choices of philosophical and scientific vocabulary. We need to inquire into the social and even political consequences of chosen conceptual apparatus, as well as the potential emotional connotations of the words we treat as technical terms. To give just one example: what differences does it make to our view of what we are actually doing, whether we refer to it as "Affective science" or "Emotion theory"? Are our attitudes to others and ourselves influenced by our choice of "passion", "emotion", "sentiments", or "affects" to designate our topic?

**You have visited China twice – and The Rationality of Emotion has been translated into Chinese. Do you think that philosophers in the West ought to pay more attention to Chinese philosophy?**

Unfortunately, under the pressures of teaching and research, I have quite failed to keep up my study of the Chinese language. At its very moderate best, it enabled me to translate a Chinese story for a collection of work by contemporary Chinese women edited by my first teacher of Chinese. But that was over 20 years ago and it has pretty much all gone. With Chinese philosophy I never made great headway. I liked the anarchic spirit of Daoist philosophy, especially Zhuang Zi, whose famous dialogue with a disciple about the happiness of fish is somewhat reminiscent of Wittgenstein at his most

whimsical. But I always found Confucianism oppressive, with its moralistic emphasis on hierarchy and authority, despite the fact that one very bright student, who is now a professor at CUNY, demonstrated in a course essay that my conception of emotional education involving paradigm scenarios was essentially equivalent to the Confucian concept of *Li*. But I am quite willing to believe that my failure to get really interested in Chinese philosophy, like my intense distaste for most of what passes for "continental" philosophy, merely reflects my intellectual provincialism.

**What are five articles or books that have influenced you?**

Quine's "Two Dogmas of Empiricism" (for the reason given above in my answer to Q 12);

Nelson Goodman's *Fact, Fiction and Forecast*;

Ruth Millikan's *Language and Other Biological Categories;*

Keith Stanovich's *The Robot's Rebellion*.

And for the whole of the last half century, the works of Daniel Dennett, culminating in his Summa, *From Bacteria to Bach and Back.*

Dennett does not specifically talk very much about emotions; but his book tells, it seems to me, the most comprehensive story available about the nature and the evolution of mind.
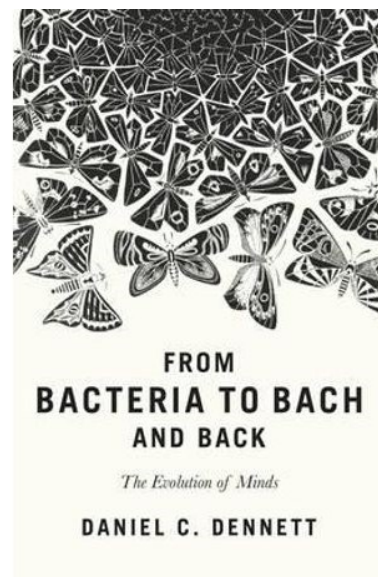
**You began your work on emotion at a time when it was a really neglected subject in philosophy; now it's become a hot topic. Do you feel pleased about that? Does it have a downside?**

Oh yes, it has a downside: it just means it is impossible to keep up. With the invaluable help of Andrea Scarantno, I am currently finishing up a major revision of the "Emotion" entry in the Stanford Encyclopedia of Philosophy. The point is to try and get an overall big picture of the field. But I am deeply aware of the fact that it remains riddled with lacunae. It drives home the literal force of the expression, "an embarrassment of riches".

**What do you think about the current state of philosophy of emotion? Are there important questions you think are being overlooked or have yet to be explored?**

In the last decade or so, two major approaches have represented themselves as bringing creative disruptions of orthodoxy in emotion theory. One is the constructionism spearheaded by Lisa Feldman Barrett and Jim Russell. The other is the so-called "Enactivist" movement. While I don't profess fully to understand it, the latter approach seems to me less revolutionary than it claims. Its emphasis on the role of the body is hardly new: even Descartes, despite Antonio Damasio's libellous book title, committed no "error" on this point. Far from professing the unreformed dualism associated with his name, he thought of the passions as very much bodily phenomena. Neither is it revolutionary to point out that in terms of evolutionary function, the absolute necessity of gathering relevant information and preparing appropriate responses began with the first replicating organisms capable of "autopoesis". This is stressed, for example, in a posthumous article by the great Nico Frijda; it has also ably explored in some of Joëlle Proust's work on feelings. But beyond stressing the commonalities of all living organisms, the emphasis on what is common to all living things does not help very much in understanding the more elaborate, species-specific forms taken by human emotions, as they prioritize and organize our strategies of inquiry and behaviour within the intricate web of human social life. The constructionist view advocated by Barrett and Russell is more promising in this regard. But, although I certainly lack the expertise to decide the question, it seems to me likely that, just as we are better at learning some things than others, on the basis of evolved biases, so it seems fairly clear that some of the emotions researchers have been inclined to call "basic" have close analogues in non-language using animals. So, although my emphasis on the idea of ideologies of emotions makes me a natural ally of the constructionist approach, I'm inclined to think that the demand for clear "signatures in the brain" for distinct emotional dispositions is an unreasonable demand. Their absence does not necessarily entail that, as Jim Russell has claimed, our labels for emotions create them on the basis of nothing more objectively stable than our names for celestial constellations.

# Social Emotions and their Prosocial Functions in Early Childhood

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Humans are remarkably social and cooperative. We gain immensely from living in groups by coordinating efforts to acquire food, defending ourselves against predators, assisting one another with child care, and so forth. It is argued that this 'ultra-cooperative' nature of humans accounts in large part for our success as a species (Tomasello, 2009). However, although individuals benefit by being part of a group, it may be in each individual's interest to be selfish, and in the long term, such selfishness can lead to the breakdown of cooperation.

Yet human cooperation is universal. Even young children, who have limited socialization experiences, demonstrate remarkable prosocial and cooperative propensities, and do so across diverse cultures (Callaghan et al., 2011; Warneken & Tomasello, 2009). Thus, from early on, humans are equipped with psychological capacities that enhance their ability to cooperate (Fessler & Haley, 2003). My research examines these psychological capacities in early development. In other words, I ask: What motivates even young children to be prosocial rather than purely self-interested?

One important answer lies in emotions. According to the functionalist view of emotions, emotions motivate behaviors of adaptive import (Darwin, 1872). For instance, fear draws our attention to perceived threats and prepares the body to fight or escape when faced with danger. When emotions serve these basic survival functions, they are known as *basic emotions* (Plutchik, 1980). *Social* emotions, on the other hand, coordinate our social interactions and thus serve to regulate relationships and maintain group cohesion – which have been just as critical for human survival and success as navigating physical threats (Keltner & Haidt, 1999). I propose that social emotions underlie a great deal of the prosocial and cooperative behaviors that we see in young children. Here, I review some of my prior and current work in support of this proposal. In particular, I review work on three social-emotional mechanisms that promote prosocial behavior and help maintain cooperation from early in ontogeny: sympathy, guilt, and forgiveness.

**Sympathy**

Sympathy, or the feeling of concern for a person in need, is a crucial motivator of prosocial behavior (Eisenberg & Miller, 1987; Eisenberg, Shea, Carlo, & Knight, 1991; Hoffman, 2000). Sympathy is related to but distinct from empathy, which is the affective response that stems from comprehending another's emotional state and is similar to what the other is feeling. Thus, whereas empathy is an emotional mechanism that allows one to feel as the other feels, sympathy is an other-directed emotional response that involves feelings of sorrow or concern for the other; as such, sympathy more than empathy is thought to motivate prosocial behavior (Eisenberg et al., 1991; Jordan, Amir, & Bloom, 2016).

Decades of research suggest that adults and even young children show concern for those in distress. For instance, when 2-year-old children see someone in pain after bumping her knee, they show facial and verbal expressions of concern, and this concern correlates with their subsequent helping or comforting behavior towards the victim (Eisenberg, Spinrad, & Sadovsky, 2006; Zahn-Waxler, Radke-Yarrow, Wagner, & Chapman, 1992).

Importantly, in order to be a reliable social motivator, sympathy needs to be more than simply a response to cues of distress (Vaish, 2016). First, it needs to be multi-determined, that is, elicited in response to whatever cues are available, even in the absence of overt distress. This enables one to sympathize flexibly across various types of situations and victims (Hoffman, 2000). Second, it needs to be context-dependent, that is, regulated based on context. After all,

sympathy and prosocial behavior can be cognitively, emotionally, and materially costly (Hodges & Klein, 2001; Zahn-Waxler & Hulle, 2012). Moreover, not all contexts require equal sympathy; in competitive situations, for instance, it might be advantageous to sympathize more with members of one's in-group than out-group. It is thus important for sympathy to be both multi-determined and context-dependent.

In a series of studies, my colleagues and I have demonstrated that sympathy checks both of these boxes from early in ontogeny. In one study (Vaish, Carpenter, & Tomasello, 2009; procedure adapted from Hobson, Harris, García-Pérez, & Hobson, 2009), 1.5- and 2-year-old children witnessed one individual causing harm to another individual, such as tearing a picture she had drawn. Importantly, the victim did not show any emotion; rather, she maintained a neutral expression during the transgression. We found that children at both ages showed greater concern for the victim when she was harmed than in a comparison condition in which she was not harmed. Children also subsequently showed greater prosocial behavior (helping, sharing, or comforting) towards the victim in the Harm than the No Harm case. Moreover, the degree of individual children's concern was correlated with their subsequent prosocial behavior, suggesting that their concern motivated their prosocial behavior. This work and similar findings from subsequent work (e.g., Chiarella & Poulin-Dubois, 2015; Vaish, Missana, & Tomasello, 2011) suggest that children's sympathy is multi-determined – elicited not only in response to overt distress cues but, in the absence of overt distress, also in response to situational cues. Sympathy is thus multi-determined from early in development.

In a second study, my colleagues and I explored whether children's sympathy for distressed others is also context-dependent (Hepach, Vaish, & Tomasello, 2012b). Here, we examined whether 3-year-old children show *less* concern when an individual displays unjustified distress, i.e., distress that is not justified by the situation. We found that 3-year-old children showed greater concern for an adult displaying justified distress (his hand was caught in a box) than the identical but unjustified distress (his sleeve was caught in the box). Children also



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subsequently helped the justifiably distressed adult more quickly. Moreover, the more concern they showed, the more quickly they helped the adult, again suggesting that their concern motivated their helping. Thus, children's sympathy varied based on whether an individual's distress was 'reasonable' or 'appropriate' within the context. Subsequent work has shown that this ability to sympathize with justified more than unjustified distress emerges between 15 and 18 months of age (Chiarella & Poulin-Dubois, 2013). Thus, sympathy is context-dependent from a remarkably early age.

Together, sympathy that is both reliably elicited and flexibly modulated provides young children with a powerful and sophisticated motivator of prosocial behavior towards victims of harm.

**Guilt**

A fundamental requirement for safeguarding cooperation is that when a cooperative interaction breaks down, it must be repaired. The emotion of guilt motivates part of this repair. Guilt is the aversive emotion that follows the realization that one has harmed someone (Nelissen & Zeelenberg, 2009). It is argued to motivate reparative and prosocial behaviors, thus playing a

vital role in regulating social interactions. For instance, transgressors who feel guilt generally express remorse, such as by apologizing and expressing the desire to repair (Fessler & Haley, 2003; Keltner, 1995; Zahn-Waxler & Kochanska, 1990). Additionally, guilt focuses a transgressor's attention on the harm she or he has caused, inflicts subjective discomfort, and crucially, motivates the transgressor to make amends (Hoffman, 1982). This in turn repairs damage to the relationship (Baumeister, Stillwell, & Heatherton, 1994). Indeed, adults who have harmed someone (and so presumably feel guilt) are more likely to later help that individual than adults who have not caused harm (Brock & Becker, 1966; Ketelaar & Au, 2003).

In recent work, my colleagues and I have demonstrated a very similar phenomenon in young children (Vaish, Carpenter, & Tomasello, 2016). Our starting point was the conceptualization of guilt as consisting of two components: concern for a victim of harm and the awareness that one is responsible for causing that harm. Neither component is by itself sufficient; rather, the two together give rise to guilt (Hoffman, 1976, 1982). We set out to assess whether children show more guilt-like behaviors (verbal and physical repair) in a guilt-relevant situation than in similar situations that are not guilt-relevant. Specifically, we compared children's reparative behavior after they accidentally caused harm to another person (guilt condition), someone else caused harm to that person (sympathy condition), or children or someone else caused the same outcome but in a non-harmful context. We found that 3-year-olds (but not 2-year-olds) showed greater verbal and physical reparative behavior in the guilt condition than in the other conditions. The 2-year-olds showed a general effect of sympathy (greater repair when the person was harmed, regardless of whether they or someone else caused the harm). Importantly, however, children's looking behavior did reveal that both 2-year-olds and 3-year-olds tracked who caused the outcome (they or someone else) and also tracked whether the outcome was harmful or not. Thus, even 2-year-olds were sensitive to both of the factors comprising guilt, but only by 3 years did children's verbal and physical reparative behaviors show a guilt-specific effect.

In a different approach to studying early guilt, we examined whether after harming someone, children are especially motivated to repair the harm themselves – because they recognize that *they* need to fix the relationship that they damaged (Hepach, Vaish, & Tomasello, 2017). For this study, we measured children's pupil dilation as an index of their physiological arousal (see Hepach, 2017; Hepach, Vaish, Müller, & Tomasello, in press; Hepach & Westermann, 2016). We found that among both 2-year-olds and 3-year-olds, arousal decreased when they were able to repair the harm that they had caused someone, but remained high if someone else repaired the harm that the children had caused. However, when children had not caused the damage, then their arousal was similarly reduced when they or someone else repaired it. Thus, as bystanders (when children presumably feel sympathy but not guilt), children are primarily motivated to see a person in need be helped regardless of who provides the help (see also Hepach, Vaish, & Tomasello, 2012a). However, guilt alters this motivation such that children not only want the other to be helped but also want to provide the help themselves – arguably as a way of repairing and showing commitment to the disrupted relationship.

Thus, by 3, and perhaps even 2 years of age, children recognize when they have caused harm and are motivated to repair that harm and restore their ruptured relationships. Of course, we did not directly measure the emotion of guilt in these studies; indeed, complex emotions such as guilt (which have no single, identifiable facial expression) are extremely challenging to measure directly, particularly in such young children, whose verbal and introspective capacities are limited. Nonetheless, based on the behavioral and physiological arousal patterns that we observed in our studies, we propose that the experience of guilt (or something close to it) helps maintain cooperation from early in development (see Vaish, 2018).

In addition to examining when children begin to *experience* guilt, my colleagues and I have also examined how children respond to others' *displays* of guilt. A functionalist view of emotions holds that emotions serve vital functions not only when they are experienced but also when they are displayed. In particular,

others' emotion displays help us identify their emotions, beliefs, and intentions, and thus help us figure out who is committed to us and unlikely to cheat us (Keltner, 2009; Nesse, 1990). Guilt displays are one prime example of this phenomenon. Displaying guilt after a transgression serves appeasement functions by communicating vital information to victims and bystanders. It communicates that the transgressor is also suffering, that the transgressor did not mean harm and is generally not the kind of person who means harm, and that the transgressor intends to make amends and behave more appropriately in the future (Keltner & Anderson, 2000; Leary, Landel, & Patton, 1996; McGraw, 1987). A remorseful transgressor thus elicits sympathy, forgiveness, and reduced punishment from both the victim and bystanders (Darby & Schlenker, 1989; Goffman, 1967).

Indeed, even young children (as young as 4 years of age) punish and blame transgressors less, and like them more, if they apologized than if they did not apologize (Darby & Schlenker, 1982, 1989; Smith, Chen, & Harris, 2010). Moreover, children of this age judge situations in which a transgressor apologized as better and more just than ones in which the transgressor was unapologetic (Wellman, Larkey, & Somerville, 1979). However, from an early age, children are frequently told by their caregivers and teachers to apologize (Smith, Noh, Rizzo, & Harris, 2017), even when they might not feel sorry. As a result, children's evaluations of transgressors who explicitly apologize might be based on hearing certain key words ("sorry" or "apologize"), which they have learned are the appropriate responses after one has transgressed. It is thus critical to examine how children respond to displays of guilt when those displays do not contain explicit apologies.

Towards this end, we investigated whether and when young children are sensitive to guilt displays in the absence of apologies (Vaish, Carpenter, & Tomasello, 2011). Four- and 5-year-old children watched videos of two different transgressors engaging in minor transgressions (e.g., accidentally tearing someone's picture). One transgressor displayed guilt (without explicitly apologizing) whereas the other transgressor did not. Children were then asked a series of questions about the two transgressors

(e.g., "Whom is the victim madder at?" and "Whom do you like more?"). Five-year-olds appropriately inferred that the victim would be madder at the unremorseful transgressor and would prefer the remorseful transgressor. They also said that they would prefer to interact with the remorseful transgressor, judged the unremorseful transgressor to be meaner, and distributed more resources to the remorseful transgressor. Four-year-olds did not draw any of these inferences and distributed the resources equally between the transgressors. However, in a second study, when the remorseful transgressor provided an explicit apology, 4-year-olds did draw all of the same inferences as the 5-year-olds in the first study and distributed more resources to the remorseful transgressor. Thus, 4-year-olds are appeased by and respond positively to transgressors' explicit apologies, but only by 5 years of age do children seem to grasp the emotions that apologies stand for, namely, guilt and remorse, and respond positively to transgressors' displays of these emotions.

In sum, the *experience* of guilt (or something like it) motivates children's reparative behavior by 2 to 3 years of age, and transgressors' *displays* of guilt appease children and elicit their cooperative behavior by 4 to 5 years of age.

## Forgiveness

Guilt and remorse represent one half of the repair process – the transgressor's half. The other half is forgiveness by the victim (McCullough, 2008; Worthington, 2010). Forgiveness reestablishes a victim's positive feelings towards transgressors, fosters reconciliation, and allows transgressors to reenter mutually beneficial relationships, thus helping to maintain cooperation (McCullough, 2008). Yet very little is known about the ontogenetic emergence of forgiveness. Recent work in my lab has delved into this topic.

In a first set of studies, we examined whether children forgive remorseful transgressors. As described above, our previous research on children's responses to guilt displays showed that, as bystanders, 5-year-olds respond positively to remorseful transgressors, and 4-year-olds do so if the transgressor explicitly apologizes (Vaish, Carpenter, et al., 2011). Yet for a relationship to be repaired, forgiveness must

come from the victim rather than a bystander. We thus investigated whether children, as the victims themselves, forgive remorseful transgressors (Oostenbroek & Vaish, in press).

We asked 4- and 5-year-old children to draw a picture with two adult experimenters. While admiring the child's picture, the two adults accidentally tore it. One adult showed remorse whereas the other did not. Children were then asked a series of questions to examine their evaluations of and preference for the two transgressors (e.g., "Whom are you more upset with?" and "If you fell over, who do you think would help you?"). Children also distributed resources between the transgressors.

Here again we found that the 5-year-olds were more forgiving of the remorseful transgressor, as evidenced by their more positive evaluations of, preference for, and distribution of more resources to the remorseful transgressor. Four-year-olds were also more forgiving of a remorseful transgressor, but only when she explicitly apologized. These findings demonstrate that by as early as 4 years, children forgive apologetic transgressors, and that by 5 years, children do so more robustly, i.e., even with less explicit expressions of remorse.

We then asked a novel question in the forgiveness literature: Does a victim's *display* of forgiveness serve important social functions? Given that forgiveness is thought to have been so important for repairing ruptured relationships and maintaining cooperation, we reasoned that a victim's display of forgiveness might serve to signal that the victim is a reliable and valuable cooperation partner, and thus that children may value a victim who forgives than one who does not.

In a pre-registered study (Oostenbroek & Vaish, 2018), 4- and 5-year-olds watched videos showing a transgressor accidentally harming two different victims (e.g., accidentally tearing their pictures) and showing remorse in both cases. Both victims were initially upset with the transgressor. However, one of the victims then forgave the transgressor (saying, "I've thought about it some more. I know you're sorry. I'm not upset with you anymore"), whereas the other victim did not forgive ("I've though about it some more. I know you're sorry. I'm still really upset with you"). After watching these videos, children

were asked a series of questions to assess their evaluations of the two victims and their expectations about the transgressor's responses to the victims.

We found, as predicted, that 5-year-olds preferred the forgiver, expected the transgressor to like the forgiver more, and thought the non-forgiver would be more likely to transgress in the future. Four-year-olds did not show these robust effects. However, both 4- and 5-year-olds distributed more resources to the forgiver. This is the first evidence that from a remarkably early age, humans respond positively to victims' displays of forgiveness and thus that displaying forgiveness may in fact be a valuable social signal.

In ongoing work on early forgiveness, we are examining the 'valuable relationship' hypothesis. This is the idea that if forgiveness evolved to help repair our valuable cooperative relationships, then it should be more readily elicited in cooperative than non-cooperative relationships (de Waal & Pokorny, 2005; McCullough, 2008). There is some support for this hypothesis in the adult literature. For instance, among adults, forgiveness in committed relationships leads to less anxiety and fewer negative emotions than a lack of forgiveness, whereas this difference is not apparent in non-committed relationships (Karremans, Lange, Ouwerkerk, & Kluwer, 2003). Thus, forgiveness seems to be especially important in committed relationships. We are examining whether this is a truly foundational function of forgiveness and is thus evident even in early ontogeny. Specifically, we are examining whether 4- and 5-year-old children are more forgiving of transgressors who belong to their own group (in-group members) than of transgressors who belong to a different group (out-group members). If forgiveness is especially important in valuable relationships, then children should more readily forgive and be more willing to reconcile with the in-group transgressor than the out-group transgressor.

All in all, our recent and ongoing work on forgiveness has begun to demonstrate that the capacity to forgive remorseful transgressors as well as to value forgiving victims emerges during the preschool years. These sophisticated capacities allow for the repair of ruptured relationships with valuable cooperation partners.

**Conclusion**

I have reviewed here three distinct but related lines of my prior and current research. This body of work shows that from a surprisingly young age, children are emotionally responsive to ruptured cooperative interactions and deeply involved in repairing such interactions. By ages 2 to 3 years, when children see someone being harmed, they show concern for that individual, and when they cause harm to someone, they show guilt-like responding in the form of heightened motivation to repair the harm. By ages 4 to 5 years, they have the ability to forgive transgressors who display remorse, and they value victims who forgive (and thus repair broken cooperative relationships) over victims who do not forgive. All of these capacities together enable children to actively participate in and contribute to the cooperation that has been so vital to humans' survival and success.

Many questions remain, of course. Why, for instance, do the experience and expression of concern and guilt emerge earlier in development (at 2 to 3 years) than the appreciation of others' displays of such emotions (at 4 to 5 years)? Do our findings on the emotion of guilt generalize to other social emotions (e.g., embarrassment, pride, or gratitude)? Do children always respond to a transgressor's remorse with forgiveness and respond positively to a forgiving victim, or are there some instances in which forgiveness is not deemed the most appropriate response (such as when a transgressor repeatedly or egregiously transgresses)? These are critical questions that my collaborators and I hope to address in future research as we aim to expand our understanding of human cooperation and its early emotional mechanisms.

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# Assessing and Understanding the Role of Everyday Emotion and Affect in Relation to Stress and Health

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## Introduction and Overview

Emotion and its connections with health-relevant processes (e.g., physiology, health behavior) and health outcomes have a long and rich history of study, both within and outside of psychology. Speaking very generally, this work has shown that broad characterizations of typical emotional states (e.g., negative and positive affect) as well as specific emotions or affects (e.g., anger) are both cross-sectionally and longitudinally related to health indicators (including self-reports of health, risk profiles, morbidity and mortality). Although there exists a great diversity of research methodologies in the study of emotion and health, much of the work has relied on either large-scale, naturalistic panel or retrospective survey designs or tightly controlled experimental work. Each of these approaches has tremendous utility; notably, the former offers good characterization of relationships at the between-person level and the latter offers high control and often excellent characterization of temporal and causal processes over short periods of time (e.g., minutes to hours). There is now a growing interest in supplementing these approaches with methodologies that allow the capture of emotion-related processes and outcomes in everyday life, often over days or weeks. Ecological Momentary Assessment [EMA] is increasingly utilized in emotion and health research, often with a focus on within-person dynamics of affective states and their relationship to health relevant processes (e.g., physiology, health behaviors, interpersonal processes) in people's everyday lives. In this article, we present what we see as some key opportunities for applying EMA and related methods to emotion and affect science as related to health.

EMA, and related approaches such as experience sampling, daily diary approaches, and others, fall under the broad umbrella of ambulatory assessment, a wide range of methods allowing the study of individuals in their naturalistic environments (Smyth et al., 2017). For simplicity, we will use the term EMA broadly throughout this article, although most of our discussion is relevant to other approaches as well. The general category of ambulatory assessment subsumes a range of reporting strategies, including self-report, observational, and (often wearable) biological or physiological sensors (Trull & Ebner-Priemer, 2013). Although not specifically communicated in the name, EMA typically refers to ambulatory assessment strategies that feature self-reports. The defining feature of the EMA method is the collection of (more-or-less) momentary self-reports, multiple times per day, in a person's everyday, naturalistic context. Such an assessment strategy allows researchers to track shifts in context, affect/mood, and behavior across multiple time scales (across hours, days, weeks) and determine the degree to which shifts in one (i.e., context) are associated with shifts in the other (i.e., affect and behavior). Although there is great interest in this method as of late, the EMA approach is not new – self-monitoring, thought-sampling, and time use reports have been used since the 1800s if not earlier, and more formal variants of experience

sampling have existed since the 1970s (see Larson & Csikszentmihalyi, 1983). Over the decades, the specifics of the approaches have varied with the available tools and technologies; early work used manual recording (e.g., paper-and-pencil diaries), then adding technologies over time such as personal paging devices, "smart" wristwatches, and personal digital assistants, and now sophisticated EMA implementations using portable tablets and smartphones.

EMA offers some notable features for the study of emotions in everyday life; we see these as advantages/strengths of EMA, although of course their relevance and utility depend upon the purpose of study. There are many comprehensive reviews and chapters that outline the potential benefits of EMA in general (e.g., see Shiffman, Stone, & Hufford, 2008; Smyth et al., 2017; Trull & Ebner-Priemer, 2013), so we will not duplicate those arguments here. Rather, we focus on a few features of EMA approaches, and the resultant data one obtains, that seem of particular importance and interest for researchers interested in emotional states, emotional processes, and health. Namely, the opportunity to study emotional processes as they unfold in natural settings in everyday life (i.e., ecological validity, broadly defined) and the capacity to collect repeated observations from the same individuals over time and across varying contexts and situations (i.e., the capacity to capture data on – and model appropriately – both between- and within-person parameters, including time/temporal processes). We then outline several important opportunities and challenges regarding the use of EMA for emotion-health research that we hope will help inspire future research.

**Ecological Validity – Why Extend Beyond Survey Research and the Lab?**

Repeated assessments of affective states in people's natural environments offer unique advantages for investigating the interrelation of affective processes and health related outcomes. Compared to more traditional "single-shot" cross-sectional questionnaire assessments, by assessing affective states in the moment, the impact of memory processes can be minimized with EMA (Schwarz, 2012). Whereas in cross-



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sectional studies participants are often instructed to remember how they felt over a certain time frame (e.g., "How angry did you feel in the last four weeks?") or during a certain event (e.g., "How happy did you feel when X happened?"), affective states in EMA are assessed at the moment (e.g., "How sad do you feel right now?"), circumventing memory retrieval processes in rendering the response to the respective question. According to the accessibility model of emotional self-report (Robinson & Clore, 2012), momentary ratings do not require episodic or semantic memory processes, contrary to retrospective assessments; therefore, momentary assessments differ qualitatively from retrospective assessments. Conner and Barrett (2012) proposed that because of these differences, momentary and retrospective ratings might capture different contributions of the "experiencing self" versus the "remembering / believing self", respectively. They further argue that momentary ratings (the experiencing self) are more tightly related to physiological measures, whereas retrospective ratings (the remembering / believing self) are more predictive of deliberate decisions and future behavior. Hence, according to this view, neither of these assessment types is per se "better", but their validity depends on the criterion used.

There is some preliminary support for this prediction: For example, Joseph, Kamarck, Muldoon, and Manuck (2014) reported results

showing that quality of marital interactions assessed via EMA (assessed over four day) was associated with carotid artery intima medial thickness (IMT), a marker of atherosclerosis and risk factor for future heart attack and stroke. In contrast, global assessments of marital quality were unrelated to IMT, demonstrating superior validity for momentary ratings in the prediction of physiological markers. Global retrospective assessments, on the other hand, often outperform momentary assessments in their predictive validity of deliberate choices. For example, in a study by Wirtz, Kruger, Napa Scollon, and Diener (2003), retrospective ratings of the perceived pleasure of a vacation were associated with the desire to repeat the vacation, whereas (aggregated) momentary ratings collected during the vacation were not. In other words, the way the vacation was remembered was more important for the intention to repeat the experience than the way the vacation was experienced in vivo. In the context of health relevant behavior, Redelmeier, Katz, and Kahneman (2003) reported data on the differential predictive validity for return rates for a follow-up colonoscopy. In this study, participants reported momentary pain ratings several times during a colonoscopy and provided retrospective pain ratings after the procedure. The amount of pain remembered after a colonoscopy (but not the average pain reported during the colonoscopy) predicted whether or not participants returned for a follow-up procedure. Future research is needed to better understand when and under which conditions momentary ratings and retrospective ratings diverge in their predictive validity for health related outcomes. The research presented here emphasizes that EMA offers unique potential in this regard above and beyond classical survey research.

EMA also offers added value compared to laboratory-based, experimental studies. The latter are considered (often rightfully so) the gold-standard for establishing causal relationships among variables of interest. However, this high internal validity often comes at the cost of low ecological validity. Notably, it is often difficult or impossible to replicate many aspects of everyday life in a laboratory. At the same time, contexts that are created for laboratory research are often artificial in that they do not resemble situations that study participants are confronted with in their



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daily lives. For example, one of the most often applied procedures to induce stress in a laboratory setting, the Trier Social Stress Test (TSST; Kirschbaum, Pirke, & Hellmammer, 1993), consists of a mock job interview. In this procedure, the interviewers wear lab coats and are instructed to show a neutral facial expression throughout the interview. This situation is arguably artificial in that most individuals will not encounter interviewers who are completely emotionally distant in their daily lives. Experimental procedures such as the TSST have proven very fruitful in prior research and they have generated a large body of vastly important knowledge about the stress response. Nevertheless, future research needs to address the question whether and to what extent the processes uncovered in the laboratory also operate in individuals' daily lives.

**Why Within-Person Variability is Important**

Human thoughts, feelings, and behaviors are complex phenomena. Their interplay forms a complex dynamical system, for whom many of its defining characteristics are constantly in flux – not only across years, but even across situations, and in the case of affect across moments (Nesselroade & Ram, 2004). The basic tenet of EMA research is that such variability is not solely "error", as was implied by traditional psychometric models (most famously Cronbach & Furby, 1970), but is meaningful variability that

represents fluctuations in response to changing environments, interpersonal interactions, and psychobiological states. In fact, contingencies between situations, affect, and behavior have formed the basis of important theoretical developments in personality and health psychology (e.g., Fleeson, 2004; Mischel & Shoda, 1995; Sliwinski, Almeida, Smyth, & Stawski, 2009). When viewed in this way, within-person variability in affect forms the basis of important individual differences (dynamic characteristics; e.g., Ram & Gerstorf, 2009) at the between-person level that may be informative for health and well-being over and above a person's "average" level of affect (Schneider & Stone, 2015).

Within-person (or intraindividual) variability has often been conceptually organized into two broad varieties (see Ram & Gerstorf, 2009): (1) *time-structured*, which consists of change that is organized with respect to time (e.g., diurnal curves) and which may show egress from a central value (e.g., a baseline or homeostatic mean value) and (2) *unstructured* or *"reversible"* change, which represents a departure or "blip" that eventually returns to a homeostatic value (e.g., the mean) and represents a temporary shift from a point of stability; examples of such change may be spikes in negative affect around a person's mean level or around their diurnal curve (see Figure 1), often in response to external events (be they negative or positive). From a practical standpoint, time-structured change in affect can be captured using random growth curve modeling techniques that estimate a trajectory across a specific time frame (e.g., a day) and allow the trajectory parameters to be different for each individual. Such temporal patterns represent an important source of time-structured variability, and the repeated, intensive measurement employed in EMA studies allows the examination of such change across a wide range of resolutions. For example, one may be interested in elucidating the trajectories of specific moods throughout a typical day (e.g., Stone, Smyth, Pickering, & Schwartz, 1996) or how affect changes by day of the week (Larson & Richards, 1998). One may also be interested in affective trajectories leading up to and out of a particular event of interest, such as a binge eating episode (Smyth et al., 2007) or the occurrence of



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a stressful event (Neubauer, Smyth, & Sliwinski, 2018; Neupert, Neubauer, Scott, Hyun, & Sliwinski, 2018; Scott, Ram, Smyth, Almeida, & Sliwinski, 2017). Given the temporal density of measurement, analysts may choose to hypothesize the shape of the trajectory a priori (linear, quadratic, cubic) or use complex curve fitting techniques that provide a data-driven solution such as LOESS curves or time-varying effect modeling (Li, Root, & Shiffman, 2006; Mason, Zaharakis, Russell, & Childress, 2018; Shiffman, 2014).

Unstructured or reversible changes in affect can be captured via difference scores from a baseline value (the person's mean or the immediately previous score), which can be aggregated into variability parameters at the between-person level such as the intraindividual standard deviation (iSD), which captures each person's typical absolute difference in affect from their own mean level; or the mean of successive squared differences (MSSD), which captures each person's typical affective shift, or the typical difference between their current and immediately previous affect level. These between-person differences in within-person dynamics can be estimated and used in the prediction of health outcomes. For example, affective instability, an indicator of time-structured within-person variability characterized by bigger moment-to-moment shifts in affect on average in some individuals versus others, has been discussed as a key pathway through which daily experiences are thought to impact psychological and physical health (John & Gross, 2004; Patel et al., 2015) and appears to be a differentiating characteristic of individuals with borderline personality
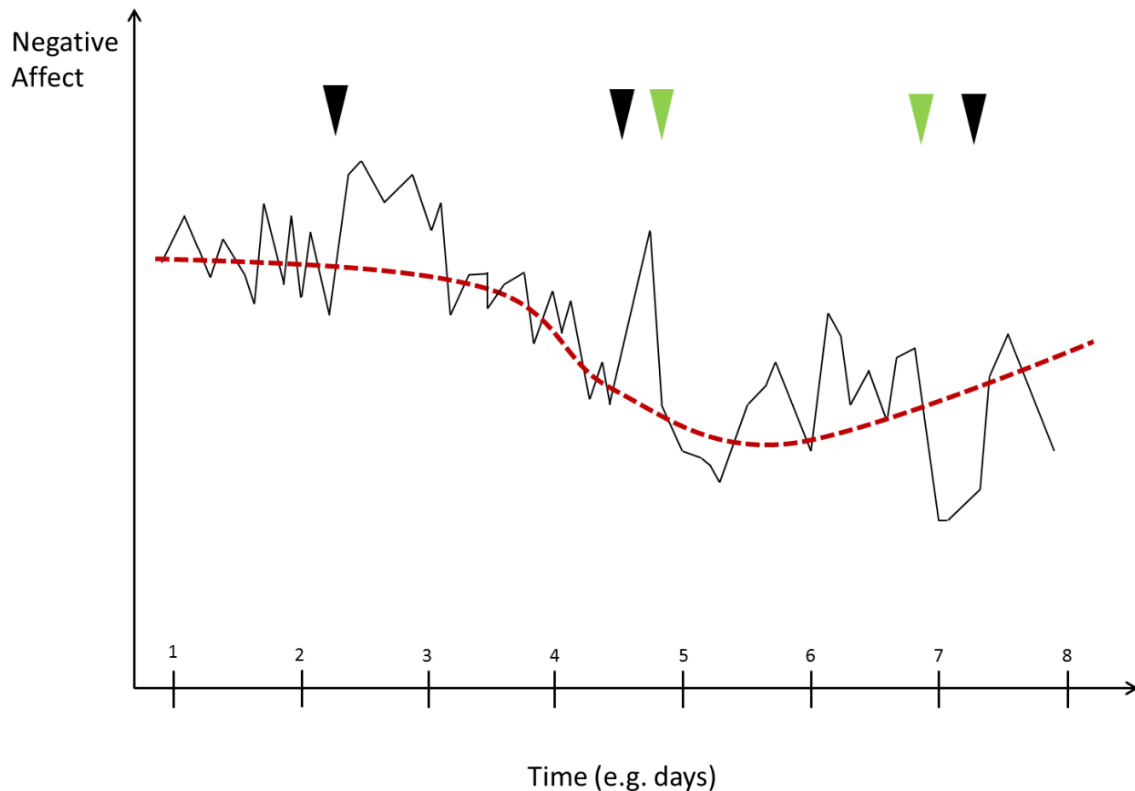
Figure 1. Time-structured change (the red line), and time-unstructured change (the random variation around the red line), and time-varying contexts (e.g., showing stressor or uplift occurrence as black and green triangles, respectively).

disorder versus major depression (Trull et al., 2008).

EMA studies have also drilled into the momentary space to examine affective fluctuations and their relationship to physical health in the moment, as well as how they relate to the characteristics of individuals and the situations experienced in everyday life. For example, Russell, Smith, and Smyth (2015) found that experiences of anger in day-to-day life were associated with increases in symptom severity in a sample of patients diagnosed with asthma or rheumatoid arthritis. The associations were stronger based on anger regulation style and sex, with men who showed high levels of anger suppression showing the greatest anger-related symptom increases. In this same sample, Smyth, Zawadzki, Santuzzi, and Filipkowski (2014) showed that patients experienced worse mood and more severe symptoms when experiencing stress in their day-to-day lives, but this association was attenuated among those who

reported having strong social support. Increasingly, recent work also integrates ambulatory physiological measures with EMA data capture. Zawadzki, Mendiola, Walle, and Gerin (2016) showed that affective valence and arousal measured via EMA in day-to-day life were differentially associated with ambulatory blood pressure measured using a monitoring cuff that individuals wore as they went through their everyday lives. Such investigations highlight the unique roles of affective dimensions in contributing to health and well-being and may have important implications for interventions (e.g., to guide ecological momentary interventions and/or just-in-time treatment; Heron & Smyth, 2010; Smyth & Heron, 2016).

**Time-varying Contexts**

As alluded to above, affective dynamics can be understood as complex phenomena that are at least partly influenced by fluctuations in the environment. In the realm of affect-health

associations, contextual variables such as the occurrence of minor stressors in daily life (also referred to as daily hassles) have received a substantial amount of attention in recent years. Research has generally shown that within-person fluctuations in the presence of such stressors are negatively related to within-person fluctuations in affective well-being (e.g., Almeida, 2002; Bolger, DeLongis, Kessler, & Schilling, 1989): That is, at occasions when an individual reports more stressors than they typically report, affective well-being is lower than their average, a phenomenon that has often been termed *affective reactivity* or *stress reactivity.* Although the use of the term "reactivity" is somewhat of a misnomer given that it is typically operationalized using a concurrent (not temporally sequenced) association between stressors and affect in daily diary studies, it has nonetheless shown itself to be of utility, emerging as a predictor of both mental and physical health outcomes including anxiety and depressive disorders (Charles, Piazza, Mogle, Sliwinski, & Almeida, 2013), chronic disease (Piazza, Charles, Sliwinski, Mogle, & Almeida, 2013), and mortality (Mroczek et al., 2015).

**Challenges and Future Directions**

Although highly selective, our previous elaborations demonstrate the potential and promises of EMA for investigating the relevance of affect levels and affective dynamics for health-related outcomes. In this section, we briefly sketch out some of the current developments, opportunities, and challenges in this field.

One current trend in EMA is an increasing application of physiological measurements to capture variables related to affective experiences, such as arousal of the sympathetic nervous system (e.g., via ambulatory monitoring of skin conductance) or activation of the hypothalamic-pituitary-adrenal (HPA) axis (via saliva samples collected in individuals' daily lives). These approaches yield some promise because they allow for capturing additional information beyond self-reports and can therefore be an important way to supplement findings relying on self-reports only. However, these methods sometimes put larger burden on study participants (e.g., repeated saliva samples in daily life), can be cost intensive, and require additional technical and methodological expertise on researchers'

side. Furthermore, studies validating the assessment of highly sensitive physiological indicators (such as skin conductance reactivity) outside of controlled laboratory settings are scarce. Therefore, we think that it is unlikely that these measures will be able to replace self-reports of affective states in the near future, but they can provide important additional information when used concurrently with momentary self-report assessments.

Another current issue in EMA is the utilization of passive sensors (e.g., GPS sensors or accelerometers) built into smartphones. Information from these sensors can be used to monitor participants' current context. This information can be used in (at least) two important ways. First, passive sensor data can supplement self-report information of time-varying contexts. In many applications, information on participants' current context is obtained via self-report from the participants (e.g., "Are you currently in the presence of other people?"; "How physically active were you today?"). Hence, context in studies that rely exclusively on self-reports needs to be understood as perceived context. Information from passive sensors can add information on context that goes beyond individuals' perception. Second, information from sensor data can be used to trigger questionnaires at appropriate moments. For example, if a researcher is interested in the question if physical activity attenuates the effect of mood on pain symptoms in a patient population, she might consider triggering the assessment of mood and pain specifically in situations after an accelerometer has detected high or low physical activity. Broadly, we see tremendous opportunities for adaptive (or "just-in-time") assessment to be developed and implemented.

Finally, there are current methodological developments that can help further our understanding of the complex time-dynamics of affective experiences in daily life. As mentioned previously, individual differences in stress-affect couplings have emerged as consistent predictors of mental and physical health outcomes even years later (Charles et al., 2013; Mroczek et al., 2015; Piazza et al., 2013). However, a number of current challenges related to this approach need to be tackled in further research.
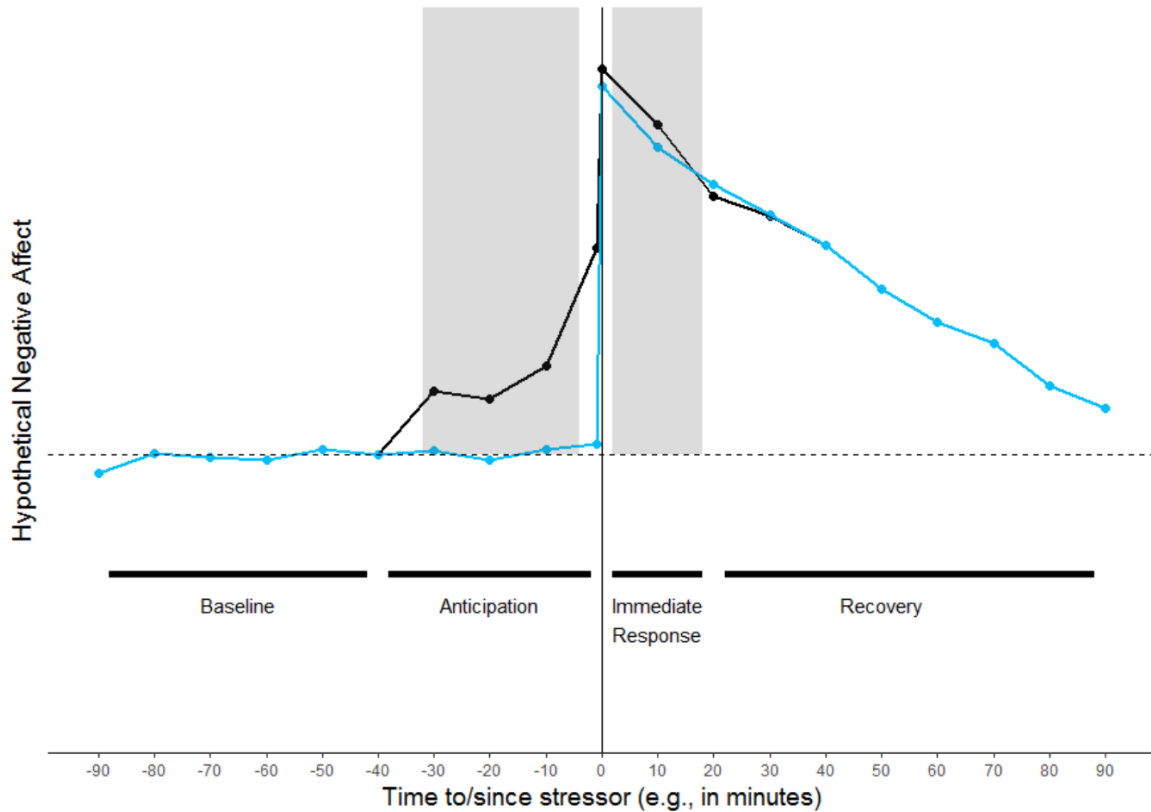
Figure 2. Hypothetical change in negative affect relative to the time to/since stressor onset; blue line = unexpected stressor, black line = anticipated stressor; distinguishing between baseline, anticipation, response, and recovery.

First, reliability of these couplings has been found to be rather low in some instances, challenging the field to move towards more precise assessment of these constructs (Neubauer, Voelkle, Voss, & Mertens, in press). Second, an important limitation of this work is that the stress-affect couplings represent concurrent or same-day associations, and therefore likely blend many phases of the stress process, including anticipation, reactivity, and recovery (see Figure 2; see also Smyth et al., 2018). This work has also been done in daily diary studies where stressors and affect are measured once daily and is therefore unable to establish temporal precedence at the within-day level. Due to its higher measurement intensity, EMA allows for greater nuance and complexity at both the within- and between-person levels. For example, the high density of measurement will facilitate the discovery of complex, non-linear trajectories in affect surrounding a stressful event, and the repeated measurement across individuals and events will allow us to individualize stress-affect contingencies in a more nuanced way. Practically then, we often seek to model the parameters that define the complex trajectory relating affect to stressful experiences, and we seek to estimate individual- and event-level differences in this complex change trajectory. Change trajectories in affect leading up to, throughout, and after a stressful event will likely be complex and non-linear, and will involve multiple affective phases, such as an anticipatory phase (if the stressor is expected), a reactivity phase (capturing the affective shift in the immediate aftermath of the experience), and a recovery phase (wherein affect begins a return to baseline). Each stressor is a different entity, and individuals will likely differ

in their average affective responses to the same events. Combining features of spline-based modeling (which allows modeling of complex curves; De Boor, 1972; Hastie & Tibshirani, 1993) with random effects (which allow individualization of trajectories; Laird & Ware, 1982; Singer & Willett, 2003) is a potential avenue leading to a full appreciation of both temporal complexity in affective change as well as individual- or event-level differences in these change trajectories (e.g., Shadish, Zuur, & Sullivan, 2014). Addressing this fully will provide analytic challenges, but will help to utilize the full richness of intensive longitudinal data collected via EMA. Third, although research on positive affective states has been burgeoning in recent years, there is less work on positive events or experiences; that is, EMA research has predominantly focused on individual's affective responses to negative experiences (stressors or "hassles"), and has not as well explored individual differences in affective response to positive experiences (e.g., "uplifts"); doing so would help provide a more complete picture of experience-affect associations in people's everyday lives by more fully examining the situational and affective spectra.

## Conclusions

EMA represents a powerful approach for the study of affect levels, dynamics, and their interrelation to both temporally proximal and distal indicators of health and well-being in everyday life. The EMA approach is particularly suited to the study of affective processes that unfold over a relatively short time scale and are responsive to the situations and environments that people encounter in their everyday lives. More broadly, these approaches allow innovative and potentially fruitful methods for characterizing processes of relevance to emotion regulation. Although EMA is not a new field, and great contributions have been made using these methods, we believe that its potential utility can be enhanced with regard to understanding the interplay amongst naturalistic affective, stress, and health processes. In particular, we believe that there are many exciting new developments in the assessment, characterization, and statistical analysis of within-person emotional dynamics and the between-person differences in these

dynamics that may be informative for distal health outcomes. Much work remains in order to more precisely determine the strengths and limitations of the EMA approach for the discovery of affect-health contingencies, but we are enthusiastic about the promise of the EMA approach for contributing important information about how emotional and physical well-being intertwine through people's everyday experiences – from moment to moment and from day to day – and how this interplay may enrich our understanding of health and disease processes during key points in the lifespan.

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*Feature article: Emotion & Health*

# The Politics of Well-being and Ecstasy

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**What Use is the History of Emotions?**

The history of the emotions can often seem a rather niche field. I sometimes receive incredulous looks when I say I work at a centre dedicated to this research: "The history of emotions? What the hell is that?" But the field is actually not just academically interesting, but practically useful, for psychologists, policy makers, and ordinary people.

The foundational idea is that our emotions are biological responses filtered through beliefs, judgements and values. This is the cognitive theory of the emotions, first put forward by Stoics and Buddhists over two thousand years ago, and more recently championed by constructivists like Robert Solomon, Martha Nussbaum (Nussbaum, 2001), and Lisa Feldman Barrett (Barrett, 2017).

Because our emotions are constructed by beliefs, values and language, different cultures at different times have different emotional vocabularies and different inner landscapes. Certain emotions might be recognized as normal and healthy in some cultures, while in other cultures may be considered unhealthy or even non-existent. In medieval Britain, for example, it was considered positive to have an ecstatic vision of Christ or the New Jerusalem, while in contemporary Britain such an experience might more often be deemed pathological. Aspects of a society's emotional culture which are considered somehow natural and ahistorical might turn out to be recent developments – the British are known for their 'stiff upper lip' yet, as Thomas Dixon has shown, before the Victorian era, we were famously weepy (Dixon, 2015).

The practical value of studying the history of the emotions, then, is threefold. Firstly, it can increase a person's 'emodiversity', extending their vocabulary for their feelings and helping them realize how rich and varied humanity's emotional palette has been over time (Watt-Smith, 2018). Secondly, it can teach us ideas and practices for emotional healing and development from different eras and traditions – such as practices from ancient Greece or 12th century Tibet (Evans, 2012). Thirdly, it can help us analyse and challenge emotional attitudes in culture and politics, and to object if one overly-narrow model of emotional health is imposed onto the messy variety of human experience and claimed to be universal (Davies, 2015).

This is a valuable contribution in an era when ideas from psychology, neuroscience and behavioural economics are infusing public policy, particularly in health and education policy. This is particularly important given the increasing risk of scientism – one particular scientific model of emotional health being imposed onto a population. Such initiatives can be helpful and useful, but they can also be overly-confident in recent scientific findings, and sometimes illiberal, intrusive and harmful.

This is where the humanities can help – by bringing a more nuanced, critical, pluralist and open-ended approach to emotional education. Rather than smuggling in a particular emotional norm under the guise of objective science, the humanities can help uncover the values and history beneath that norm, and help people decide if they want to accept it or not. In this sense, the history of the emotions can support people's freedom to consider and develop their own ethical and emotional life, rather than being crow-barred into one universalist model. Let me give an example from recent public policy.

**The Politics of Well-being**

Around a decade ago, a movement arose called the 'politics of well-being'. It is based around the idea that governments, schools, universities and organisations can and should try to make their citizens (or students, or employees) happier. This movement has led to policy interventions in the UK and elsewhere.

For example, since 2009, the British government has put hundreds of millions of pounds into making talking therapies– particularly Cognitive Behavioural Therapy –

more available to reduce the incidence of depression and anxiety in the public. There have also been attempts to teach Positive Psychology (which uses some of the same cognitive behavioural techniques as CBT) in schools, universities and the workplace. Likewise, the American military spent $180 million in 2010 launching a programme called 'Comprehensive Soldier Fitness', which was designed by Positive Psychologists at the University of Pennsylvania to make soldiers and their families more resilient and less prone to depression and post-traumatic stress. Many companies have also introduced programmes to try and make their employees healthier, happier, more mindful, more resilient and so on (Evans, 2012; Evans, 2018b)

At the national scale, the UK and several other countries and organisations (e.g., France, New Zealand, Dubai, Bhutan, the EU, the OECD) have introduced 'national well-being measurements', which aim to measure and aggregate data on populations' subjective happiness, life-satisfaction, anxiety, sense of belonging, and other emotional states. The idea is that policy makers can use this subjective data to inform policy decisions, in the same way they use objective data like GDP or unemployment. The subjective and emotional states of citizens have become a direct focus of policy – indeed, the British government recently appointed a minister for loneliness.

What could the history of the emotions bring to this field of policy? First, most obviously, it can highlight the historical roots of some of these interventions and discussions. Psychologists and policy-makers tend to think everything was invented yesterday. They are enchanted by the new. In fact, CBT was directly inspired by the 2,300-year-old philosophy of Stoicism, although this fact is not widely known, even among cognitive therapists. Likewise, while it is more commonly known that mindfulness traces its origins to Buddhism, the precise history of contemporary secular mindfulness – what was kept and what was left out – is little known. CBT and mindfulness took certain techniques from these ancient philosophies and ditched the ethical, historical and metaphysical context in which they were embedded. They were originally part of total life philosophies, rather than



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instrumentalized techniques to overcome mood disorders.

It is useful for psychotherapists and ordinary people alike to learn about the original philosophical contexts for the therapeutic techniques that they use. It enables individuals to go back to the beautiful original sources – to discover the richness of Epictetus, or Socrates, or Marcus Aurelius – and learn to be 'the doctor to themselves' as Cicero put it. Stoicism, unlike CBT, is not shy of using moral terms like courage, wisdom, virtue and brotherly love. People may find it reassuring that the ideas they are using to get better have been around for over two millennia and have stood the test of time. And the original sources are more beautiful than any CBT manual – there's something persuasive and therapeutic about beauty. This is one contribution the history of the emotions can make – and in fact, our centre has played a role in the contemporary revival of Stoicism, hosting the annual public conference 'Stoicon' for two years and helping fund an online Stoic course and evaluation, which several thousand people have enrolled in (LeBon, 2017).

Secondly, historians of emotion – and scholars of the humanities in general – can warn of the limits of scientific measurement and the risk of scientism. Psychologists and policy makers will often over-hype their interventions

and over-claim for the universal validity of their models and measurements.

For example, Positive Psychologists such as Martin Seligman (the father of the movement) claim that Positive Psychology is an objective science of flourishing. Seligman claims that he and his colleagues have come up with a universally-valid model of flourishing, called PERMA, which can accurately measure a person's feelings of Positive mood, Engagement, Relationships, Meaning, and Achievement. Positive Psychology, it is claimed, has discovered the precise interventions which will increase a person's PERMA. All that's left is for governments, companies, universities and schools to roll out the Positive Psychology programmes and their populations will automatically flourish more. This is not moral paternalism, it is claimed – it's objective science. The confidence of the Positive Psychologists has encouraged governments and organisations to put a huge amount of money into such programmes, which are sometimes imposed onto people without room for argument or debate.

The political and ethical risk of claiming you have an objective science of flourishing, if that science is rolled out by companies, organisations or even nations, is that you then impose one inevitably narrow and biased model of the good life onto people, leaving them no room to disagree or think for themselves. It can be illiberal and intrusive. You crowbar the messy complexity, ambiguity and variety of our moral and emotional lives into one box and then measure it with reductionist questionnaires, giving people a score for their flourishing or even their 'spiritual fitness' (as done by the US Army's Comprehensive Soldier Fitness programme – see Evans, 2018b).

This grand project wildly over-claims what can be objectively and reliably measured. A high score on questionnaire measurements of happiness, engagement, relationships, meaning and achievement may not correspond with morally flourishing, in the ancient Greek sense of eudaimonia. As Seligman has admitted, Osama bin Laden would have scored high on PERMA – he felt very happy, very engaged, had a strong network of colleagues, a high sense of meaning and achievement. But he was still, arguably, a bad man. President Donald Trump claims he is very

humble: "I think I'm more humble than you would understand," he has said. He would score high on self-reported measurements of humility. But does that mean he is *actually* humble?

Positive Psychologists may have data that happier people live longer, earn more, have better marriages, and so on. But that does not necessarily mean that being happier all the time is always the appropriate moral and emotional response for all people. Is there no room for other colours in humanity's emotional palette? Likewise, Stoic resilience might be helpful for certain people at certain times. But is it a universal panacea, appropriate for all people at all times? Even within the military, as Nancy Sherman has noted, there must surely be a time to grieve, to put down your mental armour, to depend on others, to not be a Stoic warrior (Sherman, 2010).

**The Politics of Ecstasy**

Let me give another example of the risk of scientism from within the science of flourishing: ecstatic experiences. Most cultures have had rituals for people to find ecstasy, by which I mean moments in which one feels one's consciousness is radically altered and one has gone beyond one's ordinary ego-identity (ekstasis in Greek literally means 'standing outside' – other terms used by psychologists for this field of research include religious experiences, spiritual experiences, ego-transcendence, peak experiences, trance and altered states of consciousness). Often, people in ecstasy feel a deep connection to something greater than themselves – a spirit, or god, a group of people, or place in nature.

Western culture has marginalized and pathologized ecstasy over the last four centuries, shifting from an enchanted to a materialist worldview. Materialist thinkers, from philosophers like Thomas Hobbes to early psychiatrists like Jean-Martin Charcot, pathologized ecstasy as delusion, 'enthusiasm', hysteria, or psychosis. This has led to a taboo around ecstatic experiences – they still spontaneously occur, but we tend not to discuss them because we're worried we will be considered ignorant or crazy (Evans, 2017).

I think this is an unfortunate narrowing of what is considered normal and healthy. As William James said: "our normal waking

consciousness, rational consciousness as we call it, is but one special type of consciousness, whilst all about it, parted from it by the filmiest of screens, there lie potential forms of consciousness entirely different... definite types of mentality which probably somewhere have their field of application and adaptation. No account of the universe in its totality can be final which leaves these other forms of consciousness quite discarded."

There have, of course, been attempts to re-find a place for ecstasy in western culture, most notably in the Sixties counter-culture, and also attempts to find a more positive and sympathetic science of ecstatic experiences (particularly within the field of transpersonal psychology, in which William James remains the pre-eminent voice).

In the last decade or so, several universities have re-started research into psychedelic drugs and psychedelic therapy with very positive early results – trials suggest that one or two psychedelic trips can help people recover from depression, addiction, trauma, and even the fear of death.

I support psychedelic research because it is helping our culture – and particularly the rationalist sceptics among us – to think about the usefulness and healthiness of ecstasy and ego-transcendence. We are rediscovering the importance of ecstasy in healing us, connecting us, and giving us inspiration and meaning. Yet here again is the risk of scientism – overclaiming for what science has proven, and imposing one's particular interpretation of the appropriate form and meaning of ecstasy onto all of the messy and ambiguous varieties of human experience.

One of the leading psychedelic labs, at Johns Hopkins University, has suggested that psychedelics help people by causing mystical experiences of non-dual consciousness, an experience that may be at the root of all mystical traditions. This idea – as Nicolas Langlitz explored in *Neuropsychedelia* - goes back to the early days of psychedelic research in the 1950s, when Aldous Huxley claimed psychedelics provided a short-cut to the mystical experiences at the heart of a 'perennial philosophy' (Langlitz, 2012). It has also been claimed (by Ralph Hood and others) that one can quantify and measure the extent to which a person reaches this unitive non-dual state, giving them a score for the 'completeness' of their mystical experience.

However, such claims ignore how different cultures shape psychedelic experiences in different ways. Indigenous Amazon communities, psychedelic experiences more often involve an encounter with spirits, rather than a non-dual experience of cosmic oneness. There is no singular 'psychedelic experience' which all people, at all times, experience. Humans have made sense of such experiences in many different ways, and there will always be some uncertainty about what such experiences mean; individuals must make up their own minds. (Evans, 2018a).

Scientists can measure to what extent a person's account of their experience maps onto their model, but there's always a risk that the person's report is shaped by the scientists' own cultural expectations and experimental setting, and no questionnaire or brain-scan can tell us if a person's mystical experience is actually true.

**Balancing the Sciences with the Humanities**

In a time of moral and political uncertainty, when more and more people in western culture are abandoning traditional religions, many people hope that science can provide clear and certain answers to fundamental moral questions, like how to flourish, how to transcend the ego, how to make sense of our place in the cosmos.

There is no doubt science has important contributions to make to these questions, but an overly-scientistic approach ignores the important role of culture, moral values, ambiguity, variety, and ethical discussion in the quest for the good life. Aristotle said that the wise person looks for precision in each class of things only so far as the subject matter permits. You can't quantify and measure flourishing for all people at all times because what it means to flourish is still up for discussion – Jesus on the cross would represent the opposite of flourishing to any social scientists standing nearby with a questionnaire.

We need the practice of ethical deliberation to develop what Aristotle called phronesis, practical wisdom, to decide for ourselves if the happiness we feel is genuine and valid happiness, if the meaning we are following is a good meaning, if our ecstatic insights are useful and real or not. This is where the humanities can

contribute – they train people to consider questions of meaning and value in all their messy ambiguity, and to make up their own minds.

Personally, I support the idea that schools, universities, organisations and even governments should help people to be happier and less miserable, to know their minds and emotions better, and to move towards their own conception of the good life. I went through school and university with very little understanding of my own mind and emotions, and had to work out how to cope with anxiety and depression by myself, initially through Stoicism, and later through other wisdom traditions. As for most people, my experience has been an ongoing search for fulfilment.

In hindsight, having been taught practices from Stoicism, Buddhism, shamanism and other wisdom traditions at school and university would have greatly benefited me. But such techniques can easily be prescribed badly, simplistically, and illiberally – particularly if the teachers or coaches claim their approach is the only way, and there can be no argument or deviation.

Instead, why not teach people both practical evidence-based techniques for changing their minds (techniques like mindfulness or CBT), as well as introducing them to some of the philosophies or religions of the good life from which these techniques emerged (such as Stoicism, Buddhism, Utilitarianism, Daoism, indigenous shamanism, and so on). Leave people room to consider, discuss and debate the strengths and weaknesses of these ethical philosophies, and to bring in their own wisdom – what has worked in their life?

This, practically speaking, is far more engaging for people than simply presenting them with one's own particular science of flourishing and stating 'this is the answer for all people and all times'.

Teaching wisdom can easily become rigid scholastic indoctrination – consider how western universities ossified for centuries around Thomist Aristotelianism. There are certainly practices or approaches which people have found useful throughout history, but our notions of the good are also dynamic, according to changing historical circumstances. One ought leave space for each person and each generation to disagree

with their elders and come up with their own answer to life.

The search for the good life is a continuous lifelong journey. Who among us has discovered one approach, one set of values, which they have found to be applicable for all situations their whole life? Even if one follows one particular philosophy or religion all their life, they will likely emphasize different aspects of it, different attitudes, at different times in their life. What is needed is phronesis, then, and this is where the humanities – history, philosophy, the arts – have something useful to contribute.

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## Further Resources

For an approach to well-being education that balances the sciences and the humanities, see recent work by James Pawelksi at the University of Pennsylvania, for example:

https://www.youtube.com/watch?v=iPgrl7U
YdfY

For an analysis of the online course in modern Stoicism, see Tim LeBon:
https://modernstoicism.com/stoic-week-2017-demographics-report-by-tim-lebon/
https://modernstoicism.com/stoic-week-2017-report-part-2-by-tim-lebon/

For an excellent brief introduction to the history of the emotions and the idea of "emodiversity," see Tiffany Watt-Smith's TED talk, "The history of the emotions":
https://www.ted.com/talks/tiffany_watt_smith_the_history_of_human_emotions?language=en