Published in final edited form as:

Perspect Psychol Sci. 2019 January ; 14(1): 34–36. doi:10.1177/1745691618804194.

Using Psychological Science to Help Children Thrive

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In 1892, the Trustees of Harvard University asked its most renowned psychologist to speak to classroom teachers in the neighboring community. Over the next several years, William James held forth on topics of particular relevance to child development: motivation, attention, curiosity, self-control, what we remember and what we forget, how to forge good habits and how to break bad ones, and more.

James (1899) aspired to translate theories and findings from psychology into language that non-psychologists could understand. “I have found by experience that what my hearers seem least to relish is analytic technicality,” James observed. “And what they most care for is concrete practical application. So I have gradually weeded out the former, and left the latter unreduced” (p. iii). James later published these lectures in the *Atlantic Monthly* and, finally, as a book of essays entitled *Talks To Teachers on Psychology.*

I stumbled upon these essays in graduate school. In a sense, the discovery came too late. I had already left the classroom where, as a middle and high school math teacher, I’d many times failed to cultivate the motivation and acuity that lay fallow in my students. When a student showed up in the morning without his homework, my reflex was to exhort rather than to empathize: “If you’d just use some self-control,” I’d intone—to no avail. When students made mistakes and gave up in frustration, my most artful teaching move was to urge them to keep trying. This never worked. And when I was the one who was frustrated, I’m sorry to say I raised my voice and lost my cool.

Like James, I had an intuition that “psychology ought certainly to give the teacher radical help” (1899, p. 5). I sensed that the perspective of psychological science might powerfully complement personal experience, providing what James called a “stereoscopic view” of the developing child (p. 11). In particular, I felt that teachers like me needed more psychologically wise mindsets and strategies to encourage—in ourselves and in our students—empathy, resilience, intrinsic interest in learning, and more.

And, so I began my career over again. At age 32, I entered doctoral training in psychology at the University of Pennsylvania under the supervision of Marty Seligman. My goal was to learn how to use psychological science to help children thrive. My first studies sought to unpack self-control in adolescence, discerning its relationships with IQ and academic performance (Duckworth & Seligman, 2005). In parallel, I explored grit, a related but distinct character strength with special relevance to challenging, identity-relevant

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accomplishments (Duckworth et al., 2007; Duckworth & Gross, 2014). Later, in collaboration with Nobel laureate economist Jim Heckman, I reviewed the collective impact of character and personality on a range of life outcomes in and beyond the classroom (Borghans et al., 2008).

For a while, progress was heartening. My experience as a teacher proved an advantage in establishing research programs in schools. Like James, I found opportunities to deliver talks to teachers, not to mention guidance counselors, parents, and Little League coaches. I gave a TED talk and wrote a book.

But about a decade into this journey, I began to wonder whether more—much more— were possible. Imagine: What if it were as easy to carry out applied research with school-aged children as it is to collect data from adults in online panels like mTurk? What if information about the development of character weren't delivered in one-way monologues from psychologists to teachers? What if, instead, psychologists and educators were engaged in ongoing dialogue on topics of mutual interest? How might best practices in user-centered design elevate both the research and practice of character development?

And so it was that in 2012, I teamed up with two visionary educators named Dominic Randolph and Dave Levin. Together, we created Character Lab, a nonprofit organization dedicated to helping children thrive using psychological science. Character Lab pursues three specific initiatives. First, we make it easier for scientists to carry out applied research with school-age children. Second, we conduct our own interdisciplinary research, partnering with teachers, athletic coaches, artists, and other outside-the-academic-box thinkers to create interventions that build character strengths. Third, we translate insights from research into actionable advice for teachers and parents.

Character Lab is a motley crew. Our research scientists, including post-doctoral fellows and graduate students, work side-by-side designers and product managers. Many of us are former classroom teachers. We attend technology, design, and education conferences as often as we present at scientific meetings. Our video calls are not just with professors at universities around the world, they are with educators across all grade levels. Our advisors include not only scientists but also leaders in technology, business, education, philanthropy, and design. And, in contrast to the warren of small offices characteristic of most traditional university buildings, our open floor plan plus communal meeting spaces encourage collaboration and conversation.

In many ways, Character Lab is just getting started, but early milestones are cause for optimism. In January 2018, the Character Lab Research Network randomly assigned over 14,000 high school students to complete one of a dozen different online activities designed by researchers and educators to increase academic motivation and effort. For example, one activity took inspiration from earlier research on giving, as opposed to receiving, advice (Eskreis-Winkler, Fishbach, & Duckworth, 2018) and asked students to share their "best school tips, tricks, and strategies." Another took inspiration from behavioral therapy (Lejuez, Hopko, & Hopko, 2001) and provided a structure for students to take small steps toward achieving academic goals. The predicted effect of each activity was pre-registered, with

sufficient statistical power to detect small but meaningful effects on academic performance. When we receive report card grades from these schools later this year, we'll know whether any of the activities were successful. Regardless, we consider the precedent-setting scale, interdisciplinary collaboration, and applied focus of this research a step in the right direction.

In July 2018, we welcomed more than 500 participants to our fourth annual Educator Summit, an event co-hosted by the Relay Graduate School of Education. Attending teachers participated in hands-on workshops co-developed by leading psychological scientists and veteran educators: Gabriele Oettingen introduced teachers to optimal goal setting and planning (Oettingen, 2014); Anders Ericsson explained the tenets of deliberate practice (Ericsson, 2017) and how it can accelerate learning; and Chris Hulleman showed teachers how to spark curiosity in the classroom by inviting students to draw connections between their academic work and their personal, interests, values, and relationships (Hulleman et al., 2017). The classroom resources featured in these workshops—available free of charge at www.characterlab.org--recently won the Core77 Design Award for Design Education.

This fall, we're piloting secondary school curricula co-developed by our collaborators Ethan Kross, John Jonides, and Dan Willingham as well as two dozen middle and high school teachers. Together, we've spent the past year translating the science of self-control and the science of learning into fifteen lessons each, complete with in-class activities, discussion guides, and try-it-yourself homework activities. The central hypothesis we will be testing is whether metacognitive understanding of self-control and learning processes leads to improvements in these two domains. Adhering to best practices in design thinking, our team has iteratively prototyped and improved these curricula in schools across the country. Next year, we'll conduct a full-scale randomized controlled trial with hundreds of teachers and thousands of students through the Character Lab Research Network.

As the steward of Character Lab's mission, I've made innumerable mistakes. Running an independent nonprofit organization, I've wrestled with challenges I hadn't encountered running a conventional scientific lab. Team building turns out to be more complex when your team is not only large but also interdisciplinary. Building a culture of trust and clarity is as important as analytic thinking—and in many ways a lot harder. Fundraising, too, is an entirely new ball game with its own steep learning curve: our supporters are as likely to be individual philanthropists as foundations or government agencies, and engaging their interest is very different from writing an R01 proposal.

Years before I co-founded Character Lab, when I was a first-year assistant professor with serious doubts about one day clearing the bar for tenure, I assumed I was about as professionally stressed out as I'd ever be. I was wrong. I wake up just as often in the middle of the night, these days thinking through one unresolved organizational problem or another. Even in the absence of crises, I wring my hands about our strategic priorities and our long-term financial sustainability. I fill notebook after notebook with sketches of organization charts and three-year timelines. My dentist says I'm grinding my teeth.

Perhaps the greatest struggle has been balancing the demands of Character Lab with my personal research program. Though I've continued to work with collaborators and students, it's undeniable that my attention has been divided. At some point in the not too distant future, I hope that will change. The management books I read late at night promise that if I continue to grow as a leader, not only will Character Lab achieve its ambitious mission, I will have more time for the research studies wistfully sketched in the "limitations and future directions" sections of my prior work.

Very recently, a friend asked whether Character Lab was a distraction from what a professor like me should be doing. I found myself stammering in response—unable to put into words the emotions that led me to leave classroom teaching in the first place, how torn I sometimes feel between the demands of this nonprofit organization and my identity as a scientist, my constant dissatisfaction with my capabilities as a leader, and how incredibly hard it has been to manage these multiple responsibilities while also raising my own two girls. And then, like sun breaking through the clouds, it came to me. Psychology is the subject I enjoy more than any other, and helping children do better in life is the goal I hold most dear. Character Lab braids my intrinsic interests together with my life purpose. "To help kids," I said, finally. "I started Character Lab to help kids thrive."

Acknowledgments

This article was made possible by the National Institute on Aging R24-AG048081-01, the Bezos Family Foundation, the Linda Vester and Glenn H. Greenberg Foundation, the Overdeck Family Foundation, the Chan Zuckerberg Initiative, the Walton Family Foundation, and the John Templeton Foundation. This article was improved by comments from Steve Arnold, Kate Clayton, James Gross, Matt Knox, Jeremy Steinberg, Sean Talamas, and Paolo Terni. The content is solely the responsibility of the author and does not necessarily represent the official views of funding agencies.

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