CHILD DEVELOPMENT PERSPECTIVES

The Journey to Children's Mindsets—and Beyond

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ABSTRACT—***My career has been devoted to understanding the nature, workings, and development of children's motivation. Starting with research on motivation in animals, I went on to study the motivational impact of children's attributions, achievement goals, and mindsets about their abilities. I have explored how socialization practices affect these mindsets, as well as how interventions that change children's mindsets can enhance their motivation and learning. I am now developing a broad theory that puts motivation and the formation of mindsets (or beliefs) at the heart of social and personality development. It is hoped that this will attract even more young scholars in developmental psychology to the study of motivation.***

KEYWORDS—*mindsets; implicit theories; social-cognitive development; motivation*

It all started in an animal-learning laboratory. People are often surprised to hear that I went to grad school to study motivation and learning in animals, the "purest" form of psychology in those days. But you have probably figured out that it was not meant to be. In short order, I became captivated by the phenomenon of "learned helplessness," first demonstrated in animals (1), and I became determined to use it to understand motivation in children: Why do some children relish challenges and thrive in the face of setbacks, while others who are just as skilled fear challenges and fall apart when they hit setbacks?

Now, you might think that as the era of animal motivation waned, interest in human motivation would grow. But it did not. The cognitive revolution had arrived and somehow cognition and motivation were not seen as natural allies. However, some fellow researchers capitalized on the cognitive revolution—using cognitive variables like attributions, expectations, and beliefs—to gain a unique perspective on human motivation. Among them were Bernie Weiner (attributions; 2), Jacque Eccles (expectancy value theory of achievement motivation; 3), Ed Deci and Mark Lepper (attributions and intrinsic motivation; 4, 5), Al Bandura (self-efficacy beliefs; 6), and John Nicholls (children's understanding of effort and ability; 7). All of these researchers understood the foundational role of motivation in optimal functioning throughout development and, eventually, other scholars joined us in our endeavor.

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THE ATTRIBUTION ERA (1970s)

My initial studies on learned helplessness in children began a major phase of my research, in which my colleagues and I showed how children's reactions to failure were shaped by the way in which they interpreted their failure (8, 9). Building on Weiner's seminal work in attribution theory (2), we found that when children attributed their failures to something they could not control in the moment (e.g., their ability), they showed a more "helpless" reaction—heightened negative affect and impaired performance. However, when they attributed failure to something they could readily control (e.g., their effort), they showed a more "mastery-oriented" pattern—continued positive affect and sustained or improved performance. We went on to spell out these patterns in rich detail (10), examined gender differences in the patterns (11; see also 12), and showed that by teaching helpless children new attributions for failure, you could help them achieve a more mastery-oriented response to it (my first intervention!; 8).

But I was not satisfied. Something kept nagging at me. Why did children of equal ability interpret failures in such different ways? Why did perfectly competent children quickly feel incompetent when things did not go well?

THE GOAL ERA (EARLY 1980s ONWARD)

In 1979, my then colleague John Nicholls and I had a long series of discussions on the nature of achievement motivation. Over

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time, we agreed that achievement motivation was about striving to develop and demonstrate your ability. Then, we realized that developing your ability and demonstrating your ability were two quite different goals. In fact, my student Elaine Elliott and I went on to show that these two different goals could *create* the helpless and mastery-oriented responses to failure (13, 14). When children were focused on demonstrating their ability and failed to do so, they were highly vulnerable to a helpless response—their ability was discredited. However, when they were focused on developing their ability, they remained in a mastery-oriented mode even when they struggled—after all, struggle is part of learning (see also 15). This work and parallel work by Nicholls and Carole Ames laid the groundwork for the burgeoning field of achievement goal theory.

This line of work was exciting, but I was soon diverted by another nagging question: Why did children of equal ability adopt such different goals? That is, why did some care so much about repeatedly validating their abilities, whereas others could, perhaps more productively, focus on the goal of growing their abilities?

THE MINDSET ERA (MID-1980s TO THE PRESENT)

As Mary Bandura (Yes, she is Al Bandura's daughter, who came from Penn State to do her dissertation with me) and I discussed her dissertation, we came to realize that the desire to repeatedly demonstrate your ability and the desire to develop your ability implied entirely different conceptions of ability. The ability that you dearly wish to validate over and over sounded more like a fixed attribute, but the ability that you wish to increase sounded more like a dynamic and malleable quality. Thus, the theories of intelligence (or *mindsets*) were born, allowing us to understand everything within one framework: How mindsets fostered goals, attributions, and reactions to setbacks.

First, my students and I showed that these two different mindsets did indeed predict the choice of different achievement goals, different attributions in the face of failure, and the helpless versus mastery-oriented responses to failure (16, 17; see also 18–20). We now had the whole model. We now understood that a basic belief—in whether intelligence, talents, or abilities are fixed traits or are qualities you can develop—could create a whole psychological framework for achievement.

And we now had a more satisfying answer to my original question of why some children feared challenges and lost heart in the face of setbacks, whereas other children who were no more skilled relished challenges and thrived in the face of setbacks. Namely, for children with the fixed view of intelligence (an *entity theory*, now more often called a *fixed mindset*), intelligence was always at stake. Challenges, setbacks, and even high effort were risky—they could result in a judgment that your fixed ability was wanting. In contrast, for children with the malleable view of intelligence (an *incremental theory*, now more often called a *growth mindset*), getting smarter was the goal. Here, challenges, setbacks, and high effort were important parts of learning, of getting smarter. No wonder some of our grade schoolers confronting difficulty said things like, "I love a challenge," "I was *hoping* this would be informative," or "Mistakes are our friend." In the early days, I was puzzled—How could they welcome so eagerly the failure-producing problems I was giving them? Now I understood why.

More About the Nature of Mindsets

People ask many questions about the mindsets. They are important questions, and the answers provide insight into both the nature of the mindsets and the mechanisms through which they work.

1. Are the mindsets part of personality? In my view, beliefs such as the mindsets are an important part of personality in that they can create characteristic and recurrent patterns of behavior (see 21).
2. Are mindsets stable; that is, once formed, do they endure? They are somewhat stable, but can change over time with exposure to new experiences and, as I will show, with targeted interventions. Thus, these belief-based parts of personality are malleable. Indeed, many current theorists depict basic parts of personality, even traits, as dynamic and malleable (21; see also 22, 23).
3. Are the mindsets domain specific; that is, can you have one mindset in one area and a different one in another area? People can indeed have different mindsets in different areas (24), and their dominant mindset in a given area will most strongly affect their goals, attributions, and behavior.
4. Can a strong situation prime a mindset? Yes, a strong cue can push people into a given mindset. For example, giving children a salient instance of person praise (praise for their intelligence) can push them toward a fixed mindset, whereas giving them process praise (praise for hard work or good strategies) can push them toward a growth mindset (25). One instance of praise will not change their mindset in an enduring way, but it can activate a given mindset in the situation.

Thus, mindsets, like much of personality, are relatively stable, but also dynamic and malleable.

How About Younger Children?

Most of our earlier research was conducted with children in late grade school or middle school. So we naturally became interested in how early these patterns could be detected and what form they might take in younger children. We were swimming against the tide here because most developmental researchers believed that young children were universally protected from fixed mindsets and helplessness (7; see also 26). These researchers appealed to evolution and that appeal was plausible. It made sense to build young children to remain hardy and persistent as they tried to master some of the most difficult tasks of a lifetime (26). Scholars also appealed to findings suggesting

that, unlike older children, young children were unfazed when they failed to reach a standard set by adults on laboratory tasks, for example, finding only one or two of nine hidden figures (e.g., Waldos; see 13).

However, as we began to think about it, we realized two things: First, maybe these tasks did not create a meaningful failure for children. Finding any Waldos at all might be fun. Second, maybe young children, in the thick of being socialized, were less concerned with abilities and more involved with issues of "goodness" and "badness."

With my colleagues Gail Heyman and Kathleen Cain (27), I tested these ideas. And indeed we found that simply making mistakes on a task was of little concern to 94% of kindergarten children—unlike children 2 years older (28). However, when an adult criticized the mistake, 39% of the younger children showed at least some aspects of a helpless reaction; for example, many said they felt like they were bad and they became unable to correct their mistake, even when the solution was apparent. Moreover, many of these same children endorsed the belief that badness was a fixed trait (see 29 for a similar pattern in preschoolers).

These findings show that young children have an early form of the whole model: A belief that badness is fixed is linked to feeling that one is bad and to giving up in the face of criticism. Although we do not know the extent to which these early forms of mindsets predict later mindsets, we became interested in the source of these beliefs and reactions.

Praise

The time was ripe. It was the height of the self-esteem movement, when gurus urged parents and teachers to praise children's ability as often and lavishly as possible. This was supposed to raise children's confidence and boost their motivation. We consistently found the opposite (25, 30): Praising intelligence created a fixed mindset and a helpless reaction to difficulty. Children were delighted when they received this praise, but as soon as they hit obstacles, the belief in fixed ability turned on them; they now thought they were not smart and their performance plummeted. In contrast, praising the *process* children engaged in, such as their hard work or their good strategies, as the reason for their good performance led to more of a growth mindset and a mastery-oriented reaction to difficulty. Problems that were hard to solve simply meant more effort or different strategies were needed, not that the child was incompetent or unworthy. Recent field studies have linked parents' praise to children's mindsets and have yielded similar findings (31, 32).

Workshops and Interventions

After finding that a growth mindset was associated with challenge seeking and resilience (18, Study 1), researchers began to wonder whether students could be *taught* a growth mindset. The answer was yes. The early interventions were typically in-person, multisession lessons, with one or more active control groups (18, Study 2; 33, 34). For example, in a study I did with Lisa Blackwell and Kali Trzesniewski (18), seventh graders in the experimental group took part in eight sessions that combined growth mindset with important study skills, whereas the control group took part in eight sessions of just study skills. At the end of the year, the control group continued to show declining grades while the growth-mindset group showed no such decline. In addition, teachers, blind to condition, singled out significantly more students in the growth-mindset group (27% vs. 9%) as being more motivated in the classroom.

A question that now confronted us was: How do you scale up such an intensive and expensive workshop? Because we saw the benefits of growth-mindset instruction, particularly for students who were making difficult school transitions (e.g., to high school or college), confronting negative stereotypes, or struggling academically, we wanted to make such training more widely available to students. So, led by Dave Paunesku and David Yeager, we developed briefer programs that could be delivered online to many students (35). These programs, although short (typically one or two sessions), are carefully crafted to ensure that students feel respected (they help us develop the program rather than being helped by us) and involved (we ask periodically for their opinions and feedback). We also take steps to help them internalize the growth-mindset message (e.g., by having them write a letter to a struggling student, mentoring the student in terms of growth mindset principles; see 33). Finally, we take pains to ensure that the growth-mindset message is compelling by providing neuroscience findings, clear application of the principles to students' lives, testimonials from peers, and examples of admired people who used a growth mindset to succeed. Thus far, we have administered these workshops to several thousand adolescents, with promising results. For example, Paunesku and colleagues (35) showed that when at-risk high school students (the bottom third in terms of grade point average) took part in a growth-mindset online program, they showed significant increases in grades and in satisfactory course completion (grades C or above) at the end of the semester (see also 36). However, we are still working to understand who is *not* benefiting from the programs and how we can make them more effective for more students.

Public Impact: The Good, The Bad, and The Good

In the early 2000s, my graduate students took me aside and held a metaphorical gun to my head. They ordered me to write a book for the public so that others could learn from the research we were doing. I obeyed, and in 2006 I published my book, *Mindset* (37). The impact has been extremely gratifying, with many parents, teachers, schools, and school systems (and even sports teams and business organizations) using growth-mindset principles to foster greater motivation and learning.

As the growth-mindset work was being put into practice out in the world, we held two assumptions: that the growth mindset

was a simple concept (i.e., abilities can be developed) and that adults with a growth mindset could readily pass it on to children. Both assumptions were deeply flawed.

First, contrary to our assumption, the growth mindset has frequently been misinterpreted. It has been equated with simply being open minded, or with simply praising effort (whether the effort is there or whether it is effective), or with simply telling children they can do anything (and leaving it at that). I have been laboring to dispel these erroneous and potentially harmful misconceptions by writing for and speaking to educational audiences.

Second, we assumed that once adults understood and developed a growth mindset, their mindset would manifest itself in their words and deeds and, in this way, influence children's mindsets. And yet, recent research examining the mindsets of parents and their children (31, 38) and of teachers and their students (39, 40) shows little or no correlation.

These surprising findings have led to a new way of thinking and a whole new line of research. We are coming to realize that adults' words and deeds often do not line up with their mindsets at all. Many parents who endorse a growth mindset fail to use process praise (31). Many parents who endorse a growth mindset also react with concern or anxiety about their children's ability (instead of giving learning-oriented suggestions) when their children hit setbacks (38). These practices, we are finding, lead children toward more of a fixed mindset about their abilities.

Similarly, many teachers who endorse a growth mindset engage in practices that convey fixed mindsets to their students. Only when teachers focus on the process of learning are they passing on a growth mindset—for example, by teaching for understanding, working with students to increase their understanding when they are stuck, and giving students a chance to revise their work to show their increased understanding (40). In this way, students learn that difficulty and confusion do not mean that they are incompetent but rather pave the way for further learning. Rather than chastising the world for misapplying our concepts, we are determined to deepen our own understanding of the process through which mindsets are communicated to children so we can educate practitioners more effectively.

MINDSETS AND BEYOND

In this article, I have focused on children's intelligence mindsets, but research on mindsets has reached into many other areas. We have conducted a whole line of research on mindsets and adolescent aggression (41), willpower or self-regulation (42), prejudice (43, 44), conflict resolution (45), and more. Whenever we think it's all been explored, we, or other researchers, stumble on new, uncharted territory.

Throughout the research on implicit theories, we have worked to develop the implications of our work for larger issues of motivation, personality, and development. For example, we have tried to offer new insights into the cognitive processes involved in motivation (46), the dynamic, malleable nature of personality (21), and the socialization and development of children's belief systems, which play a key role in their functioning and well-being (47).

Looking back, I can say that moving from attributions to goals to mindsets, and exploring the causes and consequences of each, has been a great adventure. Where to next? That's the beauty of research. You never know. However, I can tell you that I am working on a new theory of social and personality development, one that goes beyond our work on children's mindsets but grows out of it. This theory puts motivation and the formation of beliefs or schemas at the center of development from birth. I hope it will provide a general framework for thinking about the role of motivation in social and personality development, and will attract even more scholars to this endlessly exciting field.

REFERENCES

1. Maier, S. F., Seligman, M. E., & Solomon, R. L. (1969). Pavlovian fear conditioning and learned helplessness. In B. A. Campbell & R. M. Church (Eds.), *Punishment* (pp. 299–343). New York, NY: Appleton-Century-Crofts.
2. Weiner, B., & Kukla, A. (1970). An attributional analysis of achievement motivation. *Journal of Personality and Social Psychology*, *15*, 1–20. doi:10.1037/h0029211
3. Eccles, J. (1983). Expectancies, values, and academic behaviors. In J. T. Spence (Ed.), *Achievement and achievement motives* (pp. 75–146). San Francisco, CA: Freeman.
4. Deci, E. L. (1971). Effects of externally mediated rewards on intrinsic motivation. *Journal of Personality and Social Psychology*, *18*, 105–115. doi:10.1037/h0030644
5. Lepper, M. R., Greene, D., & Nisbett, R. E. (1973). Undermining children's intrinsic interest with extrinsic reward: A test of the "overjustification" hypothesis. *Journal of Personality and Social Psychology*, *28*, 129–137. doi:10.1037/h0035519
6. Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*, 191–215. doi:10.1037/0033-295x.84.2.191
7. Nicholls, J. G. (1978). The development of the concepts of effort and ability, perception of academic attainment, and the understanding that difficult tasks require more ability. *Child Development*, *49*, 800–814. doi:10.2307/1128250
8. Dweck, C. S. (1975). The role of expectations and attributions in the alleviation of learned helplessness. *Journal of Personality and Social Psychology*, *31*, 674–685. doi:10.1037/h0077149
9. Dweck, C. S., & Reppucci, N. D. (1973). Learned helplessness and reinforcement responsibility in children. *Journal of Personality and Social Psychology*, *25*, 109–116. doi:10.1037/h0034248
10. Diener, C. I., & Dweck, C. S. (1978). An analysis of learned helplessness: Continuous changes in performance, strategy, and achievement cognitions following failure. *Journal of Personality and Social Psychology*, *36*, 451–462. doi:10.1037/0022-3514.36.5.451
11. Licht, B. G., & Dweck, C. S. (1984). Determinants of academic achievement: The interaction of children's achievement orientations with skill area. *Developmental Psychology*, *20*, 628–636. doi:10.1037//0012-1649.20.4.628

12. Good, C., Rattan, A., & Dweck, C. S. (2012). Why do women opt out? Sense of belonging and women's representation in mathematics. *Journal of Personality and Social Psychology*, *102*, 700–717. doi:10.1037/a0026659
13. Dweck, C. S., & Elliott, E. S. (1983). Achievement motivation. In P. H. Mussen & E. M. Hetherington (Eds.), *Handbook of child psychology* (pp. 643–691). New York, NY: Wiley.
14. Elliott, E. S., & Dweck, C. S. (1988). Goals: An approach to motivation and achievement. *Journal of Personality and Social Psychology*, *54*, 5–12. doi:10.1037/0022-3514.54.1.5
15. Grant, H., & Dweck, C. S. (2003). Clarifying achievement goals and their impact. *Journal of Personality and Social Psychology*, *85*, 541–553. doi:10.1037/0022-3514.85.3.541
16. Bandura, M. (1983). *Children's conceptions of intelligence in relation to achievement goals and patterns of achievement-related cognitions, affect, and behavior*. Unpublished doctoral dissertation, The Pennsylvania State University, University Park, PA.
17. Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review*, *95*, 256–273. doi:10.1037/0033-295x.95.2.256
18. Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child Development*, *78*, 246–263. doi:10.1111/j.1467-8624.2007.00995.x
19. Hong, Y., Chiu, C., Dweck, C. S., Lin, D., & Wan, W. (1999). Implicit theories, attributions, and coping: A meaning system approach. *Journal of Personality and Social Psychology*, *77*, 588–599. doi:10.1037/0022-3514.77.3.588
20. Mangels, J. A., Butterfield, B., Lamb, J., Good, C., & Dweck, C. S. (2006). Why do beliefs about intelligence influence learning success? A social cognitive neuroscience model. *Social Cognitive and Affective Neuroscience*, *1*, 75–86. doi:10.1093/scan/nsl013
21. Dweck, C. S. (2008). Can personality be changed? The role of beliefs in personality and change. *Current Directions in Psychological Science*, *17*, 391–394. doi:10.1111/j.1467-8721.2008.00612.x
22. Fleeson, W. (2001). Toward a structure- and process-integrated view of personality: Traits as density distributions of states. *Journal of Personality and Social Psychology*, *80*, 1011–1027. doi:10.1037/0022-3514.80.6.1011
23. Jackson, J. J., Hill, P. L., Payne, B. R., Roberts, B. W., & Stine-Morrow, E. (2012). Can an old dog learn (and want to experience) new tricks? Cognitive training increases openness to experience in older adults. *Psychology and Aging*, *27*, 286–292. doi:10.1037/a0025918
24. Dweck, C. S., Chiu, C. Y., & Hong, Y. Y. (1995). Implicit theories and their role in judgments and reactions: A word from two perspectives. *Psychological Inquiry*, *6*, 267–285. doi:10.1207/s15327965pli0604_1
25. Mueller, C. M., & Dweck, C. S. (1998). Praise for intelligence can undermine children's motivation and performance. *Journal of Personality and Social Psychology*, *75*, 33–52. doi:10.1037//0022-3514.75.1.33
26. Harter, S. (1999). *The construction of the self: A developmental perspective*. New York, NY: Guilford.
27. Heyman, G. D., Dweck, C. S., & Cain, K. M. (1992). Young children's vulnerability to self-blame and helplessness: Relationship to beliefs about goodness. *Child Development*, *63*, 401–415. doi:10.2307/1131488
28. Heyman, G. D., & Dweck, C. S. (1998). Children's thinking about traits: Implications for judgments of the self and others. *Child Development*, *64*, 391–403. doi:10.2307/1132173
29. Cimpian, A., Arce, H. C., Markman, E. M., & Dweck, C. S. (2007). Subtle linguistic cues affect children's motivation. *Psychological Science*, *18*, 314–316. doi:10.1111/j.1467-9280.2007.01896.x
30. Kamins, M. L., & Dweck, C. S. (1999). Person versus process praise and criticism: Implications for contingent self-worth and coping. *Developmental Psychology*, *35*, 835–847. doi:10.1037//0012-1649.35.3.835
31. Gunderson, E. A., Gripshover, S. J., Romero, C., Dweck, C. S., Goldin-Meadow, S., & Levine, S. C. (2013). Parent praise to 1–3 year-olds predicts children's motivational frameworks 5 years later. *Child Development*, *84*, 1526–1541. doi:10.1111/cdev.12064
32. Pomerantz, E. M., & Kempner, S. G. (2013). Mothers' daily person and process praise: Implications for children's theory of intelligence and motivation. *Developmental Psychology*, *49*, 2040–2046. doi:10.1037/a0031840
33. Aronson, J., Fried, C. B., & Good, C. (2002). Reducing the effect of stereotype threat on African American college students by shaping theories of intelligence. *Journal of Experimental Social Psychology*, *38*, 113–125. doi:10.1006/jesp.2001.1491
34. Good, C., Aronson, J., & Inzlicht, M. (2003). Improving adolescents' standardized test performance: An intervention to reduce the effects of stereotype threat. *Journal of Applied Developmental Psychology*, *24*, 645–662. doi:10.1016/j.appdev.2003.09.002
35. Paunesku, D., Walton, G. M., Romero, C., Smith, E. N., Yeager, D. S., & Dweck, C. S. (2015). Mind-set interventions are a scalable treatment for academic underachievement. *Psychological Science*, *26*, 784–793. doi:10.1177/0956797615571017
36. Yeager, D. S., Romero, C., Paunesku, D., Hulleman, C., Schneider, B., Hinojosa, C., … Dweck, C. S. (2016). Using design thinking to make psychological interventions ready for scaling: The case of the growth mindset during the transition to high school. *Journal of Educational Psychology*, *108*, 374–391. doi:10.1037/edu0000098
37. Dweck, C. S. (2006). *Mindset: The new psychology of success*. New York, NY: Random House.
38. Haimovitz, K., & Dweck, C. S. (2016). What predicts children's fixed and growth intelligence mind-sets? Not their parents' views of intelligence but their parents' views of failure. *Psychological Science*, *27*, 859–869. doi:10.1177/0956797616639727
39. Park, D., Gunderson, E. A., Tsukayama, E., Levine, S. C., & Beilock, S. L. (2016). Young children's motivational frameworks and math achievement: Relation to teacher-reported instructional practices, but not teacher theory of intelligence. *Journal of Educational Psychology*, *108*, 300–313. doi:10.1037/edu0000064
40. Sun, K. L. (2015). *There's no limit: Mathematics teaching for a growth mindset*. Unpublished doctoral dissertation, Stanford University, Stanford, CA.
41. Yeager, D. S., Trzesniewski, K. H., & Dweck, C. S. (2012). An implicit theories of personality intervention reduces adolescent aggression in response to victimization and exclusion. *Child Development*, *84*, 970–988. doi:10.1111/cdev.12003
42. Job, V., Dweck, C. S., & Walton, G. M. (2010). Ego depletion—Is it all in your head? Implicit theories about willpower affect self-regulation. *Psychological Science*, *21*, 1686–1693. doi:10.1037/e634112013-142
43. Carr, P. B., Dweck, C. S., & Pauker, K. (2012). "Prejudiced" behavior without prejudice? Beliefs about the malleability of prejudice

affect interracial interactions. *Journal of Personality and Social Psychology*, *103*, 452–471. doi:10.1037/a0028849

44. Levy, S. R., & Dweck, C. S. (1999). The impact of children's static versus dynamic conceptions of people on stereotype formation. *Child Development*, *70*, 1163–1180. doi:10.1111/1467-8624.00085
45. Halperin, E., Russell, A., Trzesniewski, K., Gross, J. J., & Dweck, C. S. (2011). Promoting the Middle East peace process by changing beliefs about group malleability. *Science*, *333*, 1767–1769. doi:10.1126/science.1202925
46. Dweck, C. S., & Molden, D. C. (2005). Self-theories: Their impact on competence motivation and acquisition. In A. J. Elliot & C. S. Dweck (Eds.), *The handbook of competence and motivation* (pp. 122–140). New York, NY: Guilford.
47. Olson, K. R., & Dweck, C. S. (2008). A blueprint for social cognitive development. *Perspectives on Psychological Science*, *3*, 193–202. doi:10.1111/j.1745-6924.2008.00074.x