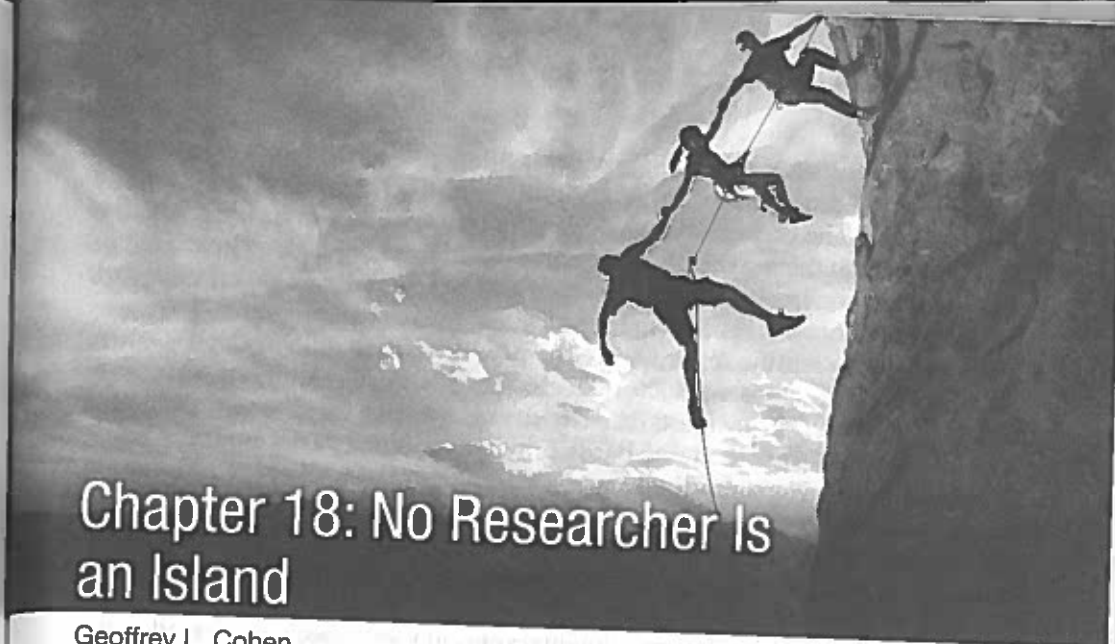


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Chapter 18: No Researcher Is an Island

Geoffrey L. Cohen

Professor of Psychology
James G. March Professor of Organizational Studies in Education and Business
Stanford University

Julio Garcia

Consulting Research Scientist
Graduate School of Education
Stanford University

There is a common conceit—more a myth, really—that we can entertain when thinking about what we do as researchers. The lone investigator who grapples with a problem in a solitary struggle is a near-heroic image. But most of us know this is far from the truth. Collaboration is a constant in the research process. It occurs while acquiring the resources to conduct the work in the back-and-forth exchanges between researchers and funders. At a more micro level, to conduct an experiment with human subjects requires collaboration with the human subjects review board, research assistants, study participants, and many others.

Of course, research has its solitary moments: those times spent plowing through the literature, the hours spent grinding away at data in order to test an idea or gain deeper understanding, the stolen moments tinkering with a study’s design. But even in these periods of solitude, the collaborative process asserts itself. Its presence lies in the internalized voice of one’s mentor; in the body of knowledge that permits us to formulate new ideas, apply a methodological practice, or use an analytical tool; and in the anticipated reaction of fellow scientists to our ideas. Although collaboration in research can be seen as one of many options, from a broader perspective it is not an option, but a necessity.

This chapter presents our understanding of collaboration in research based on our 15-year partnership conducting field experiments in public schools. We place our research in the collaborative contexts that created it.

These contexts include our collaboration with one another, our staff, the practitioners and administrators at the schools, and the student participants and their parents. The context also includes the powerful but invisible traditions that gave rise to the intellectual rationale and methodological approach of our research and the institutional ideologies and practices that shaped our work and presentation of it.

Two short scientific reports were the product of our collaboration (Cohen, Garcia, Apfel, & Master, 2006; Cohen, Garcia, Purdie-Vaughns, Apfel, & Brzustoski, 2009). They described field experiments in school testing if a self-affirmation exercise could boost minority student performance. Middle school children were randomly assigned to complete a values affirmation intervention both early in the school year and then before key stressors such as exams throughout the year. The intervention entailed a series of writing exercises in which students wrote about core values, such as religion or relationships with friends, and why they were important. By bringing to mind the "psychological big picture," the intervention was expected to broaden the self-concept and lessen the stress that minority students might feel about being negatively stereotyped in school. Consistent with expectations, we found that self-affirmed African Americans earned higher grades in their class than those students randomly assigned to complete a neutral writing exercise (Cohen et al., 2006). To our surprise, these effects rippled out to affect their grades in other courses and persisted for a long time—indeed, they remained evident two years later, at the end of the students' tenure at middle school (Cohen et al., 2009). Somehow, the affirmation process propagated itself through time. In retrospect, it seems strange that our two brief reports were actually the product of a long and serendipitous collaborative journey.

Research: A Collaborative Process From Beginning to End

On the Shoulders of Others: Our Collaborative Journey Begins

We, along with our collaborator Valerie Purdie-Vaughns, were trained in the experimental social psychology doctoral program at Stanford. Because we wanted to understand how social psychological processes play out in the real world, we conducted a series of field experiments in middle schools in the early 2000s. We began with a couple of well-supported theories, some initial findings, the methods of social psychology, and a desire to use social psychology to address social problems. Regardless of the originality of our research, it was, like all research, collaborative by necessity. The theories, findings, and know-how of social psychology were collaborative products. They had come from the efforts of many people building on one another's work over time, sometimes in concert and sometimes in conflict. We were a product of the zeitgeist, the social and intellectual fabric of the time. Of course, we wanted to add our contribution to the warp and woof of that fabric.

When we started our journey, research on stereotype threat and self-affirmation theory had undergone years of critical assessment by their

originators and a host of critics and supporters (Steele, 1988; Steele, Spencer, & Aronson, 2002). Countless hours of cooperative effort had gone into designing the studies, and thousands of people gave their time to participate in them. Articles had been written and published, with theoretical battles waged over and within them. Obviously, the investigators were a necessary part of the process, but they were far from sufficient. Many others played a role as well. Among them were colleagues who provided critical feedback—reviewers and journal editors, and others who turned the electrical squiggles into the journal articles. These activities and many others make up the collaborative process of social psychology. Our work rested on the collectively constructed approach for systematically understanding social problems and other phenomena broadly known as experimental psychology.

The focus of our research was a social problem that our mentor, Claude Steele, had begun to explore in the early 1990s—the gap in academic achievement between many ethnic minority students and their peers. Members of such groups consistently perform below their European-American and Asian-American peers, even when prior indicators of success and socioeconomic status (SES) are taken into account. Our commitment to the problem was in large part driven by our social context. We were graduate students at a particular institution, working with a particular mentor at a particular time. To paraphrase the cliché, we stand, as does every researcher, on the ideas, discoveries, and tastes of those who have done or are doing what we do, past and present, unknown and renowned. Claude Steele and his colleagues had conducted laboratory studies demonstrating how a portion of the race gap arose from the stress that minority students felt about being seen in light of a negative stereotype in school, a phenomenon called *stereotype threat* (Steele et al., 2002).

We wanted to collaborate with inspirational figures in social psychology. We wanted to continue a tradition that married theory and application, a tradition begun by Kurt Lewin (1948/1997) and Solomon Asch (1952). Although application was not much in vogue in the 1980s and 1990s in mainstream experimental social psychology, we were also inspired by several originators of intervention studies: Elliot Aronson, who found that harmonious interracial relationships could be promoted in schools by creating a cooperative group structure (Aronson & Bridgeman, 1979); Milton Rokeach (1971), who found that confronting people with a hypocrisy in their value systems could motivate lasting behavior change; and Tim Wilson and Patricia Linville (1982), who found that brief interventions that provided students with a positive explanatory frame for academic difficulty could boost their grades. These researchers demonstrated that rigorous and appropriately timed intervention could help remedy a social problem. If targeted to a key social psychological process, even a brief intervention could have large and lasting effects.

We were steeped in the social psychological theories of stereotype threat and self-affirmation of Claude Steele and his colleagues (Steele, 1988; Steele et al., 2002; see also Cohen & Sherman, 2014; Sherman & Cohen, 2006). We were also trained in the science and art of the experimental method. Specifically,

we were shaped by Kurt Lewin's approach to experimentation. He used the experimental method to mitigate big social problems—an act of folly to many. A subtle notion drove his method, summed up by a favorite maxim of both him and his developmental psychologist counterpart, Urie Bronfenbrenner (1977), namely, the best way to understand a system is to try to change it. The investigator introduced a new element into a system, such as boosting students' sense of personal adequacy in the classroom. The investigator then observed how the change in this element affected other parts of the system.

Our collaborators, in the form of our discipline, provided us a map for helping to remedy a major social problem—the gap in academic performance between minority and nonminority students. Their insistence on the importance of theory and the necessity of using the experimental method led us to a series of initial questions. First, did stereotype threat contribute to the gap in academic performance between minority and nonminority students in an actual school? Also, if it did, how could it be altered by other psychological processes?

Two psychological processes, we thought, could lessen the costs of stereotype threat: the self-affirmation process and the process of social belonging. The former allows people to assert an overall sense of adequacy by endorsing core values such as religion or relationships (Steele, 1988; see also Cohen & Sherman, 2014). The latter assures people that their struggles are not unique, but rather commonplace, and that they will be overcome in time (Walton & Cohen, 2007, 2011). We focus here on self-affirmation processes because they led to our first collaboration with a public school, its administrators, and teachers.

The Cast Multiplies and the Plot Thickens

Throughout our project, the vital role of collaboration was brought home to us. A story of our journey could emphasize our interests, goals, and grit, but that would omit two key and often related factors: collaboration and serendipity. Chance encounters with other people served as catalysts for better research. Because our earlier research spoke to the concerns of educators, unexpected opportunities began arising from outside academia.

Indeed, serendipitous social contacts provided the initial impetus for our field research. As an example, after reading a chapter that one of us had written about the effects of negative stereotypes on minority students, a senior staff member of a school district near our university began wondering if our work could be applied in her school to lift the performance of African-American students. She called us to discuss our work. This call led to a meeting with her and some of her colleagues from her school. At this meeting, it was suggested that we explore the possibility of working together. About the same time, one of us gave a talk to administrators and educators about stereotype threat at a nearby college. At this talk, a foundation representative who wanted to see this work applied to schools asked if we would be open to entering into a formal collaboration with the foundation.

After a year of discussion, the foundation wanted to formalize our collaboration, but because of its charter, the foundation wanted the work to be done in

a school in the Northeast. Their stipulation naturally led us back to the people at the school with whom we had discussed the possibility of collaboration. We submitted a research proposal to the foundation, which it then funded, and we carried out the research at the school of the school staff member who had reached out to us. Years later, a similar course of events unfolded in another part of the country, leading us to replicate and expand our work to largely poor immigrant Latin-American students (Sherman et al., 2013).

These events did not happen because they were the planned steps of a research program. In fact, it could easily be said that they had no place in such a program. It is commonly assumed that the professional success of the academic social scientist depends on conducting programmatic research in a linear, planned-out fashion. By contrast, our journey was shaped in significant part by serendipity. We would not have taken the course we did had we not been open to collaboration when unexpected opportunities knocked at our door.

We became adept at recognizing new opportunities in the broader environment. Because we had said yes when opportunity knocked once, it was more likely to knock again. Clearly, this can sometimes prove a waste of time, but sometimes it can take one in surprising and productive directions.

Our broader view of collaboration had a pronounced influence on how we moved from the lab to the field. We recognized the interdisciplinary nature of our research problem, the achievement gap. We made ourselves aware of what other researchers were doing with respect to the achievement gap to an extent that we would not have thought necessary had we been working from a more individualistic perspective.

For example, we repeatedly called colleagues for advice. This was especially important because the problem was multifaceted. In contrast to the controlled confines of the lab, where extraneous variables can be controlled, a classroom contains multiple forces interacting in complex ways. We reached out to scholars in education (in particular Professors Ed Zigler and James Comer, both creators of impactful programs for at-risk youth). Coming from a social-developmental perspective, they both emphasized the wider context in which child development occurs. This collaboration helped put in check a careerlong danger for experimental social psychologists—the urge to simplify beyond the point of usefulness. It also led us back to the work of Kurt Lewin (1948/1997), which emphasized how the effect of any intervention will depend on the system of forces into which it is introduced. Although affirming a minority child in a racist environment would lead to little or no good for the child, a timely affirmation in an environment reinforcing positive development could nudge awake the forces already present to support and sustain the student's growth.

At the beginning of our journey, our understanding of the nature of the system of forces in a classroom was sadly lacking. This was brought home to us in our interactions with other scholars, as well as in negative feedback from people outside our discipline. For instance, a respected colleague suggested a possible funding source for our work. However, we were declined funding when we submitted our research proposal, even though the external reviews of our grant proposal were positive. We later learned that key members of the

foundation's board, scholars with expertise in education, had refused to believe that our brief self-affirmation interventions could have much impact on student performance given the importance of larger structural forces. This occurred in spite of the fact that our proposal presented positive evidence of efficacy from two rigorous field experiments. In the final analysis, the board members preferred to rely on their own experience and theoretical view rather than on experimental evidence. Their theory emphasized the wider social context of child development. From this perspective, underperformance is a consequence of the structural, economic, and familial factors in a child's environment. Given this circumstance, how could a brief writing exercise close the achievement gap? Or, as one board member had reportedly commented, "We are funding projects that cost more and have far less impact than this one. So how could this project possibly work?"

These sorts of interactions had two effects on us. First, they gave us first-hand exposure to the perspectives that people in other disciplines had on the achievement gap. We had assumed that our project was a compelling and logical extension of robust laboratory findings. But it became apparent to us that outsiders sometimes saw it as a cavalier leap of faith based on conjecture. To our surprise, this was an assessment made by scholars with greater experience in studying actual schools than we had. From their vantage point, our results violated what they assumed to be possible, a denial of both common scholarly knowledge and common sense.

Having to confront this incredulity proved extremely helpful for our theory development. Incredulity points to where no theory or intuition offers understanding. We grappled with the implications of our data. Why did they provoke such incredulity? We became convinced that it was due to our cultural understanding of the nature of change, which rests on the idea that there is a direct relationship between the importance and complexity of a situation and the energy and resources necessary to change it. This implies that in order to change a multifaceted phenomenon, one must change many factors in it. From this viewpoint, simply changing one factor could not be sufficient—unless, of course, it is a big factor.

In contrast to this view of change, our data and our collaborations with other scholars led us to see how a targeted, well-timed change in one element of a system could trigger a chain reaction. The self-affirmation process occurred, but in the context of other institutional and psychological currents. We found, for instance, that an improvement in academic performance (even if only slight) could make it less likely that a minority student would be assigned to the remedial track by the school (Cohen et al., 2009). Because remedial education tends to sentence them to an institutional failure channel (Grubb, 2011; Steele, 2010), avoidance of this channel could change their academic trajectory for the better. To echo Bronfenbrenner (1977), our understanding of the relationship of the forces in a system is increased by observing how the forces in it react when one of them is nudged. A nudge in the psychology of the student illustrated how small initial differences in students' performance can have repercussions for their fate through the academic tracking system.

To paraphrase Douglas Adams (1998, para. 8), "[a]nything that happens happens; anything that is happening, causes something else to happen causes something else to happen; and anything that is happening, causes itself to happen again happens again." The feedback loop explains when and why an event triggers a cascade of consequences through time.

The second effect that interactions with people outside our field had on us was to increase our awareness of what was special about our discipline, social psychology. It asserts key ideas outside the perspective of much educational policy and research (Ross & Nisbett, 2011). Chief among these is the notion that it matters how people construe or perceive their social environment. Although a classroom may appear to be the same for all those in it to an outside observer, it may be seen very differently by different students. While a nonstereotyped student might see a classroom as a nurturing and secure location, a minority student, because of the potential to be negatively stereotyped, may experience it as a more stressful and evaluative place. Another key idea of social psychology is that because the processes in a social environment are interconnected, it is not necessary to change all (or even many) variables in order to alter the status quo. Changing one key or central factor, even if just a little, may be sufficient to set a chain reaction in motion. A third idea is the notion that rather than just measuring key educational variables, one can manipulate them. This includes not only visible incentives (the province of economists) but also subtler or even invisible social psychological factors.

When it came to building our team, the collaborative and interdependent nature of our research asserted itself in full force. It was not enough to recruit experienced researchers and trainable research assistants. The team members had to have other skill sets. Because our work took place in a school, they had to deal with educators and their support staff in a respectful way and to interact with middle school students in a professional but nonthreatening way. These are skills not normally taught in research environments. Our colleagues were more than willing collaborators in the search for qualified candidates, and so was the staff of the university employment office.

During this time, we also needed teachers at our middle school research site to be committed to our project. The experimental methodologies needed for a fair test of our hypotheses in classrooms required that teachers and staff members permit us to conduct our work with as little disclosure to them as possible about what we were doing. This is no small thing to ask of someone. We were asking educators to trust us in a way that could possibly make them professionally vulnerable, or at least waste their valuable time. We found that some of the demands of the experimental method, such as keeping teachers unaware of the hypotheses and the condition assignment of students, made trust all the more important and all the more challenging. Earning their trust (and subsequently their commitment) took about a year of meetings with them before we even ran any trials with participants. When it comes to cultivating relationships with institutions, the conclusion that we came to as consequence of our collaboration was "Don't rush it." Because of professional pressures, such as the push to publish, patience can be undervalued.

The educators' expertise provided the project with numerous benefits. One of our major concerns was to develop intervention materials so that middle school students found them understandable and engaging. The willingness of teachers to provide feedback during this process was invaluable. Teachers also proved helpful when we were puzzling over data from the sixth grade showing that girls, like African Americans in the seventh grade, benefited from affirmation. One of the teachers described how the transition to sixth grade from elementary school disrupted the social relationships of students. Moreover, the bonding experience of pretend play gave way to gossip. This was particularly stressful for girls, as relationships appeared to be more important to them. As this example demonstrates, even when practitioners do not know the theory behind a study, their understanding of social context can often improve the design of a study and inform the puzzle solving inherent in making sense of data.

Armed with a refined research strategy and materials, sufficient resources, and a research site, we moved on to the implementation phase of our research. This phase involved recruiting student participants, administering the intervention, developing a data processing system and analytical strategy, and managing our collaboration with personnel at the school. This stage produced some of the project's most challenging and rewarding moments.

One invaluable early step that we took was to hire a school liaison: a staff member at the school responsible for scheduling meetings with teachers and rooms for assessments and for requesting data. This meant that one institutional insider would handle such repeated requests. Ensuring that the required research permission slips went from classroom to students' homes, were signed by parents and got returned to the classroom, was one of the most time-consuming tasks. This proved a complex social psychological problem unto itself that benefited enormously from the input of teachers and staff, including the institutional insider who oversaw the process.

Administering the intervention during class required an intense collaboration between the research team and the school. The intervention needed to come when African-American students would be experiencing stereotype threat. Timeliness was critical. As arranged in meetings, on the key days, all teachers set aside 20 minutes to assign the intervention before an in-class exam. This occurred a few times throughout the year. Also arranged in this collaboration with teachers was a time to schedule our own survey of students in the school's auditorium—hard-to-obtain real estate at the busy beginning and end of the school year. As to data collection and entry, the school collaborated with us to provide official student records. They also provided these critical academic outcome data at the end of each school term so that we could discern *in vivo* the flow of students' experience through middle school.

The structures, routines, and schedule of institutions can be rigid. For this reason, collaboration is essential in the implementation stage. Events and timelines external to the research approach would have threatened experimental control if not for continual support from institutional allies. At one point, for example, after months of preparation, we drove an hour to school in order to administer the intervention prior to a big test, only to discover upon arrival that

the school had declared a snow day. Thankfully, the school personnel, worked with us to reschedule the intervention on the new test day.

The Aftermath: Entering, Analyzing, and Presenting the Data

We underestimated the importance of many tasks in our planning, but none so much as data entry and consolidation. The entering, transferring, checking, and rechecking of each student's data took an inordinate amount of time and labor from our team and school collaborators. We repeatedly failed to request sufficient funding to do this task in a timely way. We got better at data consolidation over time. We came to see designing the longitudinal data file as a craft—even an art. The ideal was to make the data file self-explanatory to a future investigator who knew nothing of the project. In the conscientious and artful hands of our research assistants, these files became not data banks but quantitative biographies.

In addition, colleagues provided help in the initial analytic stage of the project. Were there additional factors that we needed to take into account in our analyses? It was self-evident that the impact of the teacher on a student's performance matters, as some teachers are more effective than others. In addition, it was evident that a student's previous performance contributes to their later academic performance, and there was also evidence that performance also can vary by gender. Later, in the data analytic stage, we became worried that our strategy might be lacking in necessary rigor, given the way that students were nested within classrooms. In response to our concern, we reached out to a national expert in field experimental methods, Professor Don Green, who provided helpful consultation with respect to our analytic strategy.

Naturally, we were pleased to show that an affirmation intervention could improve the academic performance of African-American students. However, we would have to replicate the effects. With the help of our now numerous collaborators throughout the school and beyond, we conducted the replication in the following year. During this time, we found ourselves in a curious situation. We wanted to be as sharing and transparent as possible when discussing the findings with the teachers, staff, and administration at the school, but we still could not disclose the details of the intervention because we wanted to maintain experimental control. We were very grateful that our school collaborators again displayed their commitment by having a great deal of trust and understanding when we gave a presentation conveying our key results, but few specifics about the intervention. We did this each year of the project, and despite the necessary ambiguity, it proved helpful to the school and to us.

Writing up our findings for publication marked the beginning of the next stage in our journey of taking knowledge first generated in a lab to a point where it could serve as a practice in schools. This initial phase of the dissemination stage of our journey entailed presenting the findings with our colleagues in both informal and formal settings, such as at lab groups and conferences.

It took about a year and a half of collaborative writing among everyone on our team before we finished our short report. Once published, our findings triggered a host of responses—some expected and others much less so.

Benefits of Social Psychologist–Practitioner Collaborations

Our collaboration with schools underscored how fruitful collaborating with people outside of one's specific discipline is. Whether it is with academics, scientists, or practitioners, collaboration not only deepens knowledge and understanding but also reinforces the distinctive lessons that one's own discipline offers to the goal of social and institutional reform.

During our collaboration with schools, it became obvious that few school practices are informed by robust experimental studies, or for that matter, by any data-driven analysis. This is particularly striking in light of the accountability movement in education circles. In carrying out initiatives like No Child Left Behind and Race to the Top, the federal government assumes that given enough incentive, it is up to the schools to figure out the best practices. But schools are complex social systems, with staffs that are often stretched to the breaking point. Most do not have the knowledge and methods to assess the impact of their practices on students accurately. As a consequence, it is not surprising that schools flit from one program to another, seldom able to discern what works and what does not. Indeed, research in social psychology on illusory correlation shows how badly people do at detecting real associations between events, and that they are even worse at discerning causation. Theories, intuitions, and politics often trump data. Indeed, in our experience, while an organization may collect data, it generally does not adequately analyze them. It is not hard to see how schools could come to be dominated by rampant subjectivity (even if well-meant) and self-interested analysis; see Wilson (2011) for a discussion of the many well-intended but costly practices used by schools throughout the United States. Clearly, a systematic method for determining best practices would prove truly helpful.

We were also struck by how foreign the idea of randomization—using chance to introduce a practice or treatment to some students and not others—was to gatekeepers at the school. In our work, we are still consistently confronted by this attitude in workplaces and schools. There is a risk that randomization will be undermined or rejected at every stage, often without our knowledge, by a well-meaning administrator. Chance is not what institutions cherish. It is seen as a violation of the cherished ethos of allocating reward and punishment based on merit, or as treating people like guinea pigs. Yet, to us, what seems worse is the perpetuation of the status quo, wherein reward and punishment are allocated in ways consistent with stereotypes and biases. Randomization breaks the normal and sometimes unjust relationship between input and output in a system.

Indeed, given that the practices used by teachers varied regularly, that a child's academic or even life trajectory could be changed as a function of the teacher they had, that the introduction of educational material (including

textbooks) are staggered or done in a piecemeal manner, and that some schools receive more resources than others, this resistance to randomization seemed strange to us. It is difficult to maintain the belief that students' academic careers are determined by merit alone, rather than, in significant part, by chance. Worse, there is little likelihood that these events will be allocated in a way that could provide the opportunity to carry out a rigorous measure of their impact, like that provided when a practice is randomized.

Among the key benefits that social psychology can bring to collaboration is a systematic approach for gaining understanding of what is already happening in a school and why, and for programmatically introducing new practices. In collaboration with the practitioners and administrators on the front lines, who are well acquainted with many of the barriers in play, our methodologies and statistical tools can help to separate the signal from the noise, the wheat from the chaff—indeed, separate “common sense from common nonsense and make uncommon sense more common” (Stern, 1993, p. 1898).

By implementing rigorous methods, or simply instructing schools on how to evaluate the programs that they have implemented, this approach could help prevent the common practice of using untested or undertested interventions that are not only ineffective but counterproductive, such as Scared Straight and Dare (Wilson, 2011). One of the most troubling moments of our journey came when we analyzed whether programs that took place prior to our intervention had an impact on students. Among these was an intensive summer test-preparation program. After controlling for baseline variables, kids in the program performed better on the state achievement test than kids not in the program. Although not a controlled field experiment, the result provided compelling evidence of the program's efficacy. On informing a school official of this result, she told us that no one had known that the program was effective. We were told that after receiving a few complaints about the program from parents, the school board had eliminated it. The prevalence of untested, ineffective, and even counterproductive programs in schools is a problem (Wilson, 2011). But just as tragic is the termination of programs that change students' lives for the better, but whose impact goes unseen and unsung.

Another key contribution of social psychology is its insistence that methodological subtleties matter. The devil is in the details. Leon Festinger and Elliot Aronson were pioneers of this approach to experimental social psychology. They viewed method as an art, not just a science. It is not a process that simply requires defining conceptual variables in any which way and testing their relationship. Rather, good method requires attention to meaningful details in order to help ensure a compelling experience and impactful intervention. Small details can speak psychological volumes.

Consider, for example, how many lines children would have to write their responses on in the affirmation exercise's free response section. Too many, and children might be demoralized (Schwarz et al., 1991). Too few, however, and they might not have enough space to elaborate. Now consider how we discovered that low-income students did not understand what the word *values* meant. To avoid using alienating language that might undermine the affirmation

exercise, we revised the instructions to refer to “things” that the child might find important. We were also careful to deliver and retrieve intervention materials after normal school hours, to avoid the possibility that any children would see a troop of adults dropping off boxes of packets at their school and link this strange event to the writing exercise they did in their class.

While field experiments are now conducted by other social sciences, they do not share the same degree of appreciation of the possibilities for subjective construal in a situation or the power that they can have in determining its impact. By contrast, social psychology pays attention to powerful but apparently irrelevant situational details that convey meaning. All of these unique aspects of our field came into sharp relief through our collaborations with outsiders.

Institutional Pressures Against Collaboration

Our experience has led us to see collaboration and, more generally, engagement in the wider social world as both ubiquitous and necessary for relevant and rigorous social science. By contrast, in much of the advice we have heard in the academy, the importance of collaboration is often unacknowledged. Although there have been many successful collaborations in our discipline, advice discouraging collaboration with colleagues is often given. This seems particularly true in the early careers of professors, when they need to demonstrate independence for tenure, or when collaborations with scholars in other disciplines seem to fall outside a predefined research agenda. The demands of having such an agenda block the influence of others not so invested in it. We lacked a commitment to a specific research agenda, which may have accounted for our openness to chance encounters, unexpected results, and serendipity. Whenever a senior colleague would ask, “Where do you see this work going?” we were tempted to answer, “To wherever the findings and our ongoing collaborations with our colleagues take us.”

The academic profession also discourages collaboration in a subtler and often insidious way. It demands that a researcher’s work be clearly distinct from that of others. Extensive collaboration, regardless of how successful and profound, is believed to put one at risk in the tenure process, as it is thought to obscure one’s intellectual contribution. As one member of a university tenure committee put it to one of us, “[a]t some point, if the junior faculty member is serious, they have to stop all this collaboration and get down to work.”

This injunction for independence has another cost. Applying the theories of others to a novel problem domain is discouraged. The individualistic criterion overrewards the generation of new explanatory constructs, novel reformulations, or repackaging of old explanatory constructs. There is a myopic concept of “novel theoretical contribution” that excludes expanding the explanatory reach of an existing theory. This is the case in spite of the fact that social psychologists of earlier eras did this very thing. Dissonance theory, for instance, was applied to topics ranging from rumor transmission to cult beliefs to abasement rituals.

Applying existing theories is currently a pervasive practice in other social sciences such as economics. As a result, this has a greater impact on social policy, as doing so shows the power of interventions and ideas that social psychologists pioneered in the 1940s and 1950s, such as the effects of decision defaults, reminders, and more generally, small situational channels that increase the ease of engaging in the desired behavior. Given the pressures of academic social psychology, attempting to set oneself apart is understandable. However, it can prove costly for both researchers and social psychology. No one gains when the chance of increasing our understanding of social psychological process and, more broadly, our understanding of the human condition is sacrificed to the drive for distinctiveness.

The insistence on such an individualistic criterion also discourages the multiple perspectives and interdisciplinary scholarship now known to be essential to progress in the sciences. For example, collaborations between social psychologists and biologists are advancing our understanding of how social environments affect health in lasting ways (Cacioppo & Patrick, 2008; Miller, Chen, & Cole, 2009; Taylor, 2010). Social psychology has distinguished itself as a hub social science, which the American Psychological Association (APA) defines as a science whose ideas sprocket outward to advance other sciences.

Ironically, in our own case, applying self-affirmation theory and stereotype threat research to actual classrooms took our journey to a new theoretical terrain, at the center of which was the question “How do social processes propagate their impact over time?” To answer this question, new constructs such as feedback loops, recursion, and sensitive periods assert their importance in social psychology (Cohen et al., 2009; Cohen & Sherman, 2014; Yeager & Walton, 2011).

Still other theoretical questions arose from our intervention study. For instance, what happens when teachers, students, and other stakeholders taking part in a study know the experimental hypothesis, as well as the theory and purpose of the intervention? We later explored this question in a series of studies with our collaborators David Sherman and Arielle Silverman, along with several other colleagues (Sherman et al., 2013). What dosage is sufficient to maximize a treatment’s effects? One dose might not suffice, and too many exposures may dilute its impact. The pattern, frequency, and timing of a treatment over time may prove as important as the content of the treatment itself. In addition, how do we deal with the requirement that the assignment of any child to the treatment should not affect the outcome of another child (the stable unit treatment value assumption)? This may be unrealistic in a classroom, where children are constantly interacting with one another, so treatment effects can bleed over from one child to another. In fact, in certain cases, this would be a desirable outcome.

Still more new questions arise when the experimental method is applied in actual classroom settings, such as “How may the effects on individual psychology of a treatment affect the social climate of the classroom?” Using the same data set years later, we found that more treated minorities in a classroom improved the grades of the class as a whole (Powers, Cook, Purdie-Vaughns,

Garcia, Apfel, & Cohen, 2016). One need not start with a novel theory to arrive at novel theoretical contributions.

Conclusions

The journey that we have described here was always a collaborative effort involving those who worked directly with us, those whom we reached out to, and those who laid the groundwork for our research by providing not only a map for our journey, but also the inspiration and tools for embarking on it. To move the work forward in a chaotic school environment, we also had to find new collaborators at almost every stage.

This narrative relates only a part of this journey, which we are still taking. A cyclical process of administering the intervention, collecting and entering data, analyzing them, and then writing up findings still continues. Moreover, at this moment, we are still dealing with data produced by these studies and their implications in collaboration with new colleagues. This is possible because from the beginning, we took a long view of the work. It is a perspective that demands that we acknowledge the necessity for collaboration in order to accomplish any research.

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