

intuition is not evidence: prescriptions for behavioral interventions from social psychology

Timothy D. Wilson & Lindsay P. Juarez

abstract

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Does anyone know if there's a scared straight program in Eagle Pass? My son is a total screw up and if he don't straighten out he's going to end up in jail or die from using drugs. Anyone please help!

—Upset dad, Houston, TX¹

It is no surprise that a concerned parent would want to enroll his or her misbehaving teenager in a so-called scared straight program. This type of dramatic intervention places at-risk youths in prisons where hardened inmates harangue them in an attempt to shock them out of a life of crime. An Academy Award-winning

documentary film and a current television series on the A&E network celebrate this approach, adding to its popular appeal. It just makes sense: A parent might not be able to convince a wayward teen that his or her choices will have real consequences, but surely a prisoner serving a life sentence could. Who has more credibility than an inmate who experiences the horrors of prison on a daily basis? What harm could it do?

As it happens, a lot of harm. Scared straight programs not only don't work, they increase the likelihood that teenagers will commit crimes. Seven well-controlled studies that randomly assigned at-risk teens to participate in a scared straight program or a control group found that the kids who took part were, on average, 13% more likely to commit crimes in the following months.² Why scared straight programs increase criminal activity is not entirely clear. One possibility is that bringing at-risk kids together subjects

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them to negative peer influences;³ another is that going to extreme lengths to convince kids to avoid criminal behavior conveys that there must be something attractive about those behaviors.⁴ Whatever the reason, the data are clear: Scared straight programs increase criminal activity.

"Do No Harm"

The harmful effects of scared straight programs have been well documented, and many (although not all) states have eliminated such programs as a result. Unfortunately, this is but one example of a commonsense behavioral intervention that proved to be *iatrogenic*, a treatment that induces harm rather than healing.⁵ Other examples include the Cambridge-Somerville Youth Study, a program designed to prevent at-risk youth from engaging in delinquent behaviors;⁶ critical incident stress debriefing, an intervention designed to prevent posttraumatic stress in people who have experienced severe traumas; Dollar-a-Day programs, in which teen mothers receive money for each day they are not pregnant; and some diversity training programs (see reference 4 for a review of the evidence of these and other ineffective programs). At best, millions of dollars have been wasted on programs that have no effect. At worst, real harm has been done to thousands of unsuspecting people. For example, an estimated 6,500 teens in New Jersey alone have been induced to commit crimes as a result of a scared straight program.⁴ Also, boys who were randomly assigned to take part in the Cambridge-Somerville Youth Study committed significantly more crimes and died an average of five years sooner than did boys assigned to the control group.⁶

Still another danger of these fiascos is that policymakers could lose faith in the abilities of social psychologists, whom they might assume helped create ineffective programs. "If that's the best they can do," a policymaker might conclude, "then the heck with them—let's turn it back over to the economists." To be fair, the aforementioned failures were designed and implemented not by research psychologists but by well-meaning practitioners who based their interventions on intuition and common sense. But common sense alone does not always translate to effective policy.

Psychological science does have tools needed to guide policymakers in this arena. For example, the field of social psychology, which involves the study of individuals' thoughts, feelings, and behaviors in a social context, can help policymakers address many important issues, including preventing child abuse, increasing voter turnout, and boosting educational achievement. This approach involves translating social psychological principles into real-world interventions and testing those interventions rigorously with small-scale randomized controlled trials (RCTs). As interventions are scaled up, they are tested experimentally to see when, where, and how they work. This approach, which has gathered considerable steam in recent years, has had some dramatic successes. Our goal here is to highlight the advantages and limits of this approach.

Social Psychological Interventions

Since its inception in the 1950s, the field of social psychology has investigated how social influence shapes human behavior and thought, primarily with the use of laboratory experiments. By examining people's behavior under carefully controlled conditions, social psychologists have learned a great deal about social cognition and social behavior. One of the most enduring lessons is the power of *construals*, the subjective ways individuals perceive and interpret the world around them. These subjective views often influence behavior more than objective facts do.⁷⁻¹¹ Hundreds of laboratory experiments, mostly with college student participants, have demonstrated the importance of this basic point, showing that people's behavior stems from their *construals*. Further, these *construals* sometimes go wrong, such that people adopt negative or pessimistic views that lead to maladaptive behaviors.

For example, Carol Dweck's studies of mindsets with elementary school, secondary school, and college students show that academic success often depends as much on people's theories about intelligence as on their actual intelligence.¹² People who view intelligence as a fixed trait are at a disadvantage, especially when they encounter obstacles. Poor grades can send them into a spiral of academic failure because they interpret those grades as a sign that they are not as smart as they thought they were, and so what is the point of trying? People who view intelligence as a set of skills that

improves with practice often do better because they interpret setbacks as an indication that they need to try harder or seek help from others. By adopting these strategies, they do better.

Significantly, social psychologists have also found that construals can be changed, often with surprisingly subtle techniques, which we call *story-editing interventions*.⁴ Increasingly, researchers are taking these principles out of the laboratory and transforming them into interventions to address a number of real-world problems, often with remarkable success.^{4,13,14} Social scientists have long been concerned with addressing societal problems, of course, but the social psychological approach is distinctive in these ways:

- *The interventions are based on social psychological theory:* Rather than relying on common sense, social psychologists have developed interventions based on theoretical principles honed in decades of laboratory research. This has many advantages, not the least of which is that it has produced counterintuitive approaches that never otherwise would have been thought to work.¹⁵
- *Focus is on changing construals:* As noted, chief among these theoretical principles is that changing people's construals regarding themselves and their social world can have cascading effects that result in long-term changes in behavior.
- *The interventions start small and are tested with rigor:* Social psychologists begin by testing interventions in specific real-world contexts with tightly controlled experimental designs (RCTs), allowing for confident causal inference about the effects of the interventions. That is, rather than beginning by applying an intervention to large populations, they first test the intervention on a smaller scale to see if it works.

Editing Success Stories

The social psychological approach has been particularly successful in boosting academic achievement by helping students stay in school and improve their grades. In one study, researchers looked at whether a story-editing intervention could help first-year college students who were struggling academically. Often such

students blame themselves, thinking that maybe they are not really "college material," and can be at risk of dropping out. These first-year participants were told that many students do poorly at first but then improve and were shown a video of third- and fourth-year students who reported that their grades had improved over time. Those who received this information (compared with a randomly assigned control group) achieved better grades over the next year and were less likely to drop out of college.^{16,17} Other interventions, based on Dweck's work on growth mindsets, have improved academic performance in middle school, high school, and college students by communicating that intelligence is malleable rather than fixed.^{18,19}

Social psychologists are taking aim at closing the academic achievement gap by overcoming *stereotype threat*, the widely observed fact that people are at risk of confirming negative stereotypes associated with groups they are associated with, including their ethnicity. Self-affirmation writing exercises can help. In one study, middle school students were asked to write about things they valued, such as their family and friends or their faith. For low-performing African American students, this simple intervention produced better grades over the next two years.²⁰

What about the fact that enrollment in high school science courses is declining in the United States? A recent study found that ninth-grade science students who wrote about the relevance of the science curriculum to their own lives increased their interest in science and improved their grades. This was especially true for students who had low expectations about how they would do in the course.²¹ Another study that looked at test-taking anxiety in math and science courses found that high school and college students who spent 10 minutes writing about their fears right before taking an exam improved their performance.²²

Education is not the only area to benefit from story-editing interventions. For example, this technique can dramatically reduce child abuse. Parents who abuse their children tend to blame the kids, with words such as "He's trying to provoke me" or "She's just being defiant." In one set of studies, home visitors helped to steer parents' interpretations away from such pejorative causes and toward more benign interpretations, such as the possibility that the baby was crying because he or she was hungry or tired. This simple intervention

reduced child abuse by 85%.²³

Story-editing interventions can make for happier marriages, too. Couples were asked to describe a recent major disagreement from the point of view of an impartial observer who had their best interests in mind. The couples who performed this writing exercise reported higher levels of marital satisfaction than did couples who did not do the exercise.²⁴

These interventions can also increase voter turnout. When potential voters in California and New Jersey were contacted in a telephone survey, those who were asked how much they wanted to “be a voter” were more likely to vote than were those who were asked how much they wanted to “vote.” The first wording led people to construe voting as a reflection of their self-image, motivating them to act in ways consistent with their image of engaged citizens.²⁵ Interventions that invoke social norms, namely, people’s beliefs about what others are doing and what others approve of, have been shown to reduce home energy use²⁶ and reduce alcohol use on college campuses.²⁷ Simply informing people about where they stand in relation to what other people do and approve of helps them modify their behavior to conform to that norm.

Although these successful interventions used different approaches, they shared common features. Each targeted people’s construals in a particular area, such as students’ beliefs about why they were performing poorly academically. They each used a gentle push instead of a giant shove, with the assumption that this would lead to cascading changes in behavior over time. That is, rather than attempting to solve problems with massive, expensive, long-term programs, they changed people’s construals with small, cheap, and short-term interventions. Each intervention was tested rigorously with an experimental design in one specific context, which gave researchers a good idea of how and why it worked. This is often not the case with massive “kitchen sink” interventions such as the Cambridge-Somerville Youth Study, which combined many treatments into one program. Even when these programs work, why they create positive change is not clear.

When we say that interventions should be tested with small samples, we do not mean underpowered samples. There is a healthy debate among methodologists as to the proper sample size in psychological

research, with some arguing that many studies are underpowered.^{28,29} We agree that intervention researchers should be concerned with statistical power and choose their sample sizes accordingly. But this can still be done while starting small, in the sense that an intervention is tested locally with one sample before being scaled up to a large population.

Scaling up and the Importance of Context

We do not mean to imply that the social psychological approach will solve every problem or will work in every context. Indeed, it would be naive to argue that every societal issue can be traced to people’s construals—that it is all in people’s heads—and that the crushing impact of societal factors such as poverty and racism can be ignored. Obviously, we should do all that we can to improve people’s objective environments by addressing societal problems.

But there is often some latitude in how people interpret even dire situations, and the power of targeting these construals should be recognized. As an anecdotal example, after asserting in a recent book⁴ that “no one would argue that the cure for homelessness is to get homeless people to interpret their problem differently,” one of us received an e-mail from a formerly homeless person, Becky Blanton. Ms. Blanton wrote,

In 2006 I was living in the back of a 1975 Chevy van with a Rottweiler and a house cat in a Walmart Parking lot. Three years later, in 2009, I was the guest of Daniel Pink and was speaking at TED Global at Oxford University in the UK. . . . It was reframing and redirecting that got me off the streets. . . . Certainly having some benefits, financial, emotional, family, skill etc. matters, but where does the DRIVE to overcome come from?

As Ms. Blanton has described it, her drive came from learning that the late Tim Russert, who hosted NBC’s *Meet the Press*, used an essay she wrote in his book about fathers. The news convinced her that she was a skilled writer despite her circumstances. Although there is a pressing need to improve people’s objective circumstances, Ms. Blanton’s e-mail is a poignant

reminder that even for people in dire circumstances, construals matter.

And yet helping people change in positive ways by reshaping their construals can be complicated. It is vital to understand the interplay between people's construals and their environments. Social psychologists start small because they are keenly aware that the success of their interventions is often tied to the particular setting in which they are developed. As a result, interventions depend not only on changing people's construals but also on variables in their environments that support and nurture positive changes. These moderator variables are often unknown, and there is no guarantee that an intervention that worked in one setting, for example, a supportive school, will be as effective in another setting, such as a school with indifferent teachers. For example, consider the study²⁰ that found that African American middle school students earned better grades after writing essays about what they personally valued. This study took place in a supportive middle school with responsive teachers, and the same intervention might prove to be useless in an overcrowded school with a less supportive climate.

At this point, policymakers might again throw up their hands and say, "Are you saying that just because an intervention works in one school or community means that I can't use it elsewhere? Of what use are these studies to me if I can't implement their findings in other settings?" This is an excellent question to which we suggest two answers. First, we hope it is clear why it is dangerous to start big by applying a program broadly without testing it or understanding when and how it works. Doing so has led to massive failures that damaged people's lives, such as in the case of scared straight programs. Second, even if it is not certain that the findings from one study will generalize to a different setting, they provide a place to start. The key is to continue to test interventions as they are scaled up to new settings, with randomly assigned control groups, rather than assuming that they will work everywhere. That is the way to discover both how to effectively generalize an intervention and which variables moderate its success. In short, policymakers should partner with researchers who embrace the motto "Our work is never done" when it comes to testing and refining interventions (see references 30 and 31 for excellent discussion of the issues with scaling up).

There are exciting efforts in this direction. For example, researchers at Stanford University have developed a website that can be used to test self-affirmation and mindset interventions in any school or university in the United States (<http://www.perts.net>). Students sign on to the website at individual computers and are randomly assigned to receive treatment or control interventions; the schools agree to give the researchers anonymized data on the students' subsequent academic performance. Thousands of high school and college students have participated in studies through this website, and as a result, several effective ways of improving student performance have been discovered.¹⁹

Unfortunately, these lessons about continuing to test interventions when scaling up have not been learned in all quarters. Consider the Comprehensive Soldier Fitness program (now known as CSF2). After years of multiple deployments to Iraq and Afghanistan, U.S. troops have been experiencing record numbers of suicides, members succumbing to alcohol and drug abuse, and cases of posttraumatic stress disorder, among other signs of psychological stress. In response, the U.S. Army rolled out a program intended to increase psychological resilience in soldiers and their families.³² Unfortunately, the program was implemented as a mandatory program for all troops, with no control groups. The positive psychology studies on which the intervention was based were conducted with college students and school children. It is quite a leap to assume that the intervention would operate in the same way in a quite different population that has experienced much more severe life stressors, such as combat. By failing to include a randomly assigned control group, the U.S. Army and the researchers involved in this project missed a golden opportunity to find out whether the intervention works in this important setting, has no effect, or does harm.^{33–35}

It is tempting when faced with an urgent large-scale need to forgo the approach we recommend here. Some rightly argue that millions of people are suffering every day from hunger, homelessness, and discrimination and they need to be helped today, not after academics in ivory towers conduct lengthy studies. We sympathize with this point of view. Many people need immediate help, and we are certainly not recommending that all aid be suspended until RCTs are conducted.

In many cases, however, it is possible to intervene

and to test an intervention at the same time. People could be randomly assigned to different treatments to see which ones work best, or researchers could deliver a treatment to a relatively large group of people while designating a smaller, randomly chosen group of people to a no-treatment control condition.

This raises obvious ethical issues: Do we as researchers have the right to withhold treatment from some people on the basis of a coin toss? This is unethical only if we know for sure that the treatment is effective. One could make an equally compelling argument that it is unethical to deliver a treatment that has not been evaluated and might do more harm than good (for example, scared straight programs). Ethicists have no problem with withholding experimental treatments in the medical domain; it is standard practice to test a new cancer treatment, for example, by randomly assigning some patients to get it and others to a control group that does not. There is no reason to have different standards with behavioral treatments that have unknown effects.

One way to maintain research protocols while serving as many people as possible is to use a wait-list design. Imagine, for example, that a new after-school mentoring and tutoring program has been developed to help teens at risk of dropping out of school. Suppose further that there are 400 students in the school district who are eligible for the program but that there is funding to accommodate only 200. Many administrators would solve this by picking the 200 neediest kids. A better approach would be to randomly assign half to the program and the other half to a wait list and track the academic achievement of both groups.³⁶ If the program works—if those in the program do better than those on the wait list—then the program can be expanded to include the others. If the program doesn't work, then a valuable lesson has been learned, and its designers can try something new.

Some may argue that the gold standard of scientific tests of interventions—an RCT—is not always workable in the field. Educators designing a new charter school, for example, might find it difficult to randomly assign students to attend the school. Our sense, however, is that researchers and policymakers often give up too readily and that, with persistence and cleverness, experiments often can be conducted. In the case in which a school system uses a lottery to assign students

to charter schools, researchers can compare the enrolled students with those who lost the lottery.^{37,38}

Another example of creativity in designating control groups in the field comes from studies designed to test whether radio soap operas could alleviate prejudice and conflict in Rwanda and the Democratic Republic of the Congo. The researchers created control groups by broadcasting the programs to randomly chosen areas of the countries or randomly chosen villages.^{39,40}

There is no denying that many RCTs can be difficult, expensive, and time-consuming. But the costs of not vetting interventions with experimental tests must be considered, including the millions of dollars wasted on ineffective programs and the human cost of doing more harm than good. Understanding the importance of testing interventions with RCTs and then continuing to test their effectiveness when scaling up will, we hope, produce more discerning consumers and, crucially, more effective policymakers.

Recommendations for Policymakers

We close with a simple recommendation for increased partnerships between social psychological researchers and policymakers. Many social psychologists are keen on testing their theoretical ideas in real-world settings, but because there are practical barriers to gaining the trust and cooperation of practitioners, they often lack entry into those settings. Further, because they were trained in the ivory tower, social psychologists may lack a full understanding of the nuances of applied problems and the difficulties practitioners face in addressing them. Each would benefit greatly from the expertise of the other. We hope that practitioners and policymakers will come to appreciate the power and potential of the

social psychological approach and be open to collaborations with researchers who bring to the table theoretical expertise and methodological rigor. Together, they can form a powerful team with the potential to make giant strides in solving a broad range of social and behavioral problems.

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