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## Chapter 1

### *Social Psychology: Crisis and Renaissance*

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The first edition of this book was published in 2010, which, in retrospect, were halcyon days for social psychology. The discipline retained its long-standing strengths—including an emphasis on exciting and important research questions, a seemingly endless fount of innovative research paradigms, and a dedication to unpacking the mechanism driving key effects—while also enjoying a surge of influence within and beyond the ivory tower. Psychology was firmly established as one of a handful of hub sciences (Cacioppo, 2007), and social psychology was, in many respects, the scientific hub of psychology. Meanwhile, the most prestigious and influential media outlets regularly reported social-psychological findings, and new media channels, including TED talks, had helped to turn some of the more charismatic members of our community into major public intellectuals. Despite some significant challenges, including a weak funding climate in the wake of the worldwide recession of 2007–2008, the foundation of social psychology felt strong, the forecast sunny.

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Then, suddenly, a crisis hit. More and more social psychologists came to doubt the replicability of social-psychological findings. This crisis resulted not from concerns about the behavior of a few bad actors (although a few high-profile fraud cases broke in 2011 and 2012) but rather from concerns about systemic problems embedded within our normative research practices. These concerns emerged from the intersection of two aspects of our publication process. First, researchers had strong incentives to find statistically significant results in their data. Virtually all professional rewards—landing a faculty position, getting tenure, procuring grant funding, garnering respect from one's peers, and so forth—depended on publishing articles, and journals strongly favored statistically significant results. Second, researchers possessed substantial flexibility in analyzing and reporting on their data. These two factors produced a situation in which researchers' careers benefited from analyzing their data in many ways and then (a) reporting only those data-analytic procedures that yielded statistically significant support for their hypothesis or (b) adapting their hypothesis in light of what the data showed (and thereby violating the logic underlying hypothesis testing).

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Such tactics increased the likelihood that researchers would find statistically significant results, but they obviously did not increase the likelihood that the hypothesis in question is actually correct. Although the field nominally accepted a *false-positive* rate of 5% ( $\alpha = .05$ )—a rate of concluding from a study that an



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effect exists in the population when it actually does not—the actual rate was substantially higher than that. Precisely how much higher is impossible to discern, but the existence of these excess false-positive findings meant that too many findings in the published literature were nonreplicable.

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These problems were not unique to social psychology. Indeed, the seminal article that launched the replication crisis focused on the biomedical sciences (Ioannidis, 2005), and few of the empirical sciences are immune. But social psychology has been ground zero for the most important conversations about how to strengthen scientific practice, and our discipline has taken the lead in developing new norms and tools for doing so. Consequently, at the end of a grueling decade, we are enjoying something of a renaissance.

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## The 2010s: A Glance Back on a Turbulent Decade

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In 2011, the *Journal of Personality and Social Psychology (JPSP)*, our field's flagship empirical outlet, published an article on *psi*—a type of extrasensory perception (ESP) characterized by “anomalous retroactive influence of some future event on an individual's current responses”—from the eminent social psychologist Daryl Bem (2011, p. 407). The article reported nine studies, eight of which yielded statistically significant support for *psi*. Bem acknowledged (p. 407) that *psi*-related phenomena “are currently unexplained in terms of known physical or biological mechanisms” and, indeed, many readers found the idea inherently implausible on its face. In this way, Bem's paper provided a smoking-gun example for people seeking to argue that the standard approach to scientific discovery in social psychology—a process to which the Bem paper apparently hewed closely—was fundamentally flawed. After all, if the standard data-analytic and reporting procedures could reveal consistent evidence of a phenomenon that (in the view of the many skeptics) cannot be real, the headline was less about *psi* than about those standard procedures.

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Shortly thereafter, researchers published major articles seeking to identify how such procedures can produce false-positive results at significantly inflated rates. The journal *Psychological Science* published an article by Joseph Simmons, Leif Nelson, and Uri Simonsohn (2011) called “False-Positive Psychology: Undisclosed Flexibility in Data Collection and Analysis Allows Presenting Anything as Significant.” This article introduced the term *researcher degrees of freedom* to refer to data-analytic procedures designed to get a key *p*-value below .05, such as selectively reporting one of two possible dependent variables, repeatedly rerunning hypothesis tests after collecting data on a small number of additional participants (“data snooping”), and statistically controlling for participants' gender. Simmons et al. reported simulations suggesting that such researcher degrees of freedom dramatically increase the false-positive rate. Shortly thereafter, *Perspectives on Psychological Science* published an article by Leslie John, George Loewenstein, and Drazen Prelec (2012) reporting that a large proportion of the 2,000 psychological scientists who responded to their survey had engaged in behaviors that could be used to get *p*-values below .05, which they called *questionable research practices*. In 2015, *Science* published an article from Brian Nosek and 269 collaborators (Open Science Collaboration, 2015) that replicated 100 studies published in major psychology journals, including *JPSP*, revealing that only 35% to 40% of the statistically significant results achieved statistical significance in the replication attempt.

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None of these studies is perfect, and all have been critiqued. For example, Eli Finkel (2016) argued that although the Simmons et al. (2011) paper served as a devastating proof of concept, it is unlikely that many researchers had ever *p*-hacked their data like an algorithm would (e.g., with complete indifference to the truth). Klaus Fiedler and Norbert Schwarz (2016) argued that the meaning of many of the John et al.

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(2012) survey items was ambiguous, raising questions about whether engaging in such research practices is, in fact, “questionable.” For example, “failing to report all of a study’s dependent measures” could result from the motivation to dupe readers into believing an effect is robust when it is not, but it could also result from an array of benign motivations; perhaps the researchers included a number of dependent variables that were always intended as subsidiary and exploratory, and they never analyzed the results for those variables. Daniel Gilbert, Gary King, Stephen Pettigrew, and Timothy Wilson (2016) reanalyzed data from the 100-replication study (Open Science Collaboration, 2015)—seeking to account for issues like statistical power, possible bias in study selection, and ways in which the replications might have deviated methodologically from the original studies—and concluded that “the data are consistent with [the conclusion] that the reproducibility of psychological science is quite high” (p. 1037). Although debate about such issues is ongoing, there is little doubt that, on balance, the 2010s witnessed a major surge in social psychologists’ concerns regarding the replicability of the field’s published results, which in turn has produced concomitant changes in our normative research and publication practices.

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### The 2020s: A Glance Forward to a Stronger Discipline

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When the first edition of this book was released, there was minimal infrastructure for promoting transparency regarding the collection, analysis, and reporting of data, and it was virtually impossible to publish direct replications in top journals. In pursuit of a more replicable discipline, (social) psychology made wholesale changes on these fronts over the past decade. For example, in 2013, Brian Nosek and Jeffrey Spies launched the Center for Open Science, a nonprofit tech startup with the mission to “increase the openness, integrity, and reproducibility of scientific research” (Center for Open Science, n.d.). The center provides a suite of Internet-based tools for (a) preregistering hypotheses and data-analytic plans and (b) sharing research materials and data.

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Meanwhile, most major empirical journals revised their editorial policies to encourage direct replications, and many new options have emerged for the publication of such studies. For example, *Comprehensive Results in Social Psychology*, which launched in 2016, is

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devoted to publishing social psychological research using the registered report format where a plan for the research is submitted for initial review. . . . If the plan for research is accepted as being methodologically sound and theoretically important, authors are guaranteed publication of the manuscript irrespective of the outcome of data analysis.” (“Aim and Scope,” 2018)

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*Advances in Methods and Practices in Psychological Science*, which launched in 2018, dedicates a section to “Registered Replication Reports,” which serves to bolster “the foundation of psychological science by publishing collections of replications based on a shared and vetted protocol.” To publish Registered Replication Reports, which had been housed at *Perspectives on Psychological Science* from 2014 until 2017, “authors submit a detailed description of the method and analysis plan” which is then “sent to the author(s) of the replicated study for review” (“Mission Statement,” n.d.). Once the plan has been vetted, a public announcement is made, and many labs—perhaps 20 or 25—run the study following the standard protocol. The primary goals are to discern the robustness of a high-profile effect from the published literature and to estimate its magnitude.

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Riding sidecar with the emergence of a robust technological infrastructure for promoting open practices and the surging priority afforded to direct replications is a third major development oriented



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toward bolstering the replicability and information value of the field's findings: a sharply increased emphasis on statistical power. Social psychologists had long appreciated that low statistical power placed studies at risk for producing *false negatives*—concluding from a study that an effect does not exist in the population when it actually does exist—but few of us sufficiently appreciated that it also placed studies at risk for producing false positives. Low power can produce false positives in part because parameter estimates tend to be bouncy when statistical power is low (Schönbrodt & Perugini, 2013). For example, in a two-cell between-participants design, the *p*-value testing for a mean difference is likely to change much more when increasing the sample from 15 to 20 participants per condition than when changing from 215 to 220 per condition. If the researchers in the small-sample case are snooping on their data and stopping if the *p*-value falls below .05—or are, for example, tinkering with the inclusion or exclusion of participants with a mean score greater than 2.5 standard deviations from the mean to get the effect below .05—the actual false-positive rate will be higher than 5%, perhaps much higher.

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The extensive discussion surrounding replicability triggered a more wide-ranging dialogue regarding the characteristics of a healthy scientific discipline. Indeed, as the field converges on the conclusion that, under most circumstances, sample sizes should be orders of magnitude larger than what was normative in the past, some scholars have also expressed concerns that certain valuable research methods will become vanishingly rare. The sort of labor-intensive, small-sample studies that put social psychology on the intellectual map in the 1950s and 1960s—consider Solomon Asch's (1956) conformity studies, Stanley Milgram's (1963) obedience studies, and John Darley's and Bibb Latané (1968) bystander intervention studies—would be especially difficult to publish today, even setting aside challenges associated with running such studies in a fully ethical manner. Psychology's claim to be a science once rested on emphasizing direct observation of objective behavior, but these observations have been getting rarer as such labor-intensive methods have been increasingly eclipsed by cheaper and easier methods, typically involving individuals sitting alone at computer terminals (Baumeister, Vohs, & Funder, 2007). This trend is likely to accelerate in the new era of large samples.

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Eli Finkel, Paul Eastwick, and Harry Reis (2015, 2017) observed that efforts to optimize the use of the field's finite resources—money, time, research participants, and so forth—require the simultaneous consideration of multiple scientific desiderata, including others that (like replicability) have long received insufficient attention in our discipline. This discussion began by considering the optimal balance between discovery (Do the findings document support for novel hypotheses?) and replicability (Do the findings emerge in other samples using a design that retains the key features of the original design?), but it quickly expanded to include desiderata like internal validity (Do the findings permit inferences about causal relationships?), external validity (Do the findings generalize across populations of persons, settings, and times?), construct validity (Do the findings enable researchers to correctly link theoretical constructs to operationalizations?), consequentiality (Do the findings have implications or consequences for other sciences and the real world?), and cumulativeness (Do the findings cohere in a manner that affords conceptual integration across studies?). For social psychology to flourish, it must achieve at least moderate success on all such desiderata, an undertaking that requires a broad range of different types of studies. But as we narrow the focus to any given study, it becomes impossible (or at least impractical) to optimize all of them at once. Given the state of the relevant research literature, should the study seek to rule out alternative explanations for an established effect (to bolster internal validity)? Should it investigate whether the effect emerges in other contexts (to bolster external validity)? Should it assess whether procedures that are virtually identical to those from an earlier study produce similar results (to bolster replicability)? Should it prioritize one of the other desiderata or perhaps seek to bolster more than one of them?

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Scholars are continuing to discuss the best strategies for allocating resources across the various desiderata. Indeed, even the two editors of this volume are not entirely aligned: One of us is more convinced that the benefits of the recent methodological changes significantly outweigh the costs, whereas the other is less sure. Overall, however, there appears to be widespread agreement among social psychologists (a) that bolstering replicability is essential and (b) that we must do so in a way that also attends to the other desiderata. As illustrated in Chapter 3 of this volume—“New Developments in Research Methods” (Ledgerwood, 2019)—social psychologists have much better conceptual, methodological, and statistical tools for meeting these goals today than we did a decade ago.

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### Overview of This Book

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This new research methods chapter points to one of the major ways in which the second edition of *Advanced Social Psychology* differs from the first: The revised edition deals directly with issues surrounding replicability. Indeed, we asked the authors of all other chapters to at least consider incorporating a discussion of replicability “in whatever manner seems appropriate in light of where issues currently stand in the literature.”

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A second major change from the first edition is the inclusion of two new content chapters, each covering research domains that enjoyed a major surge of interest in the 2010s. First, Linda Skitka and Paul Conway have contributed a chapter on morality (Chapter 13), offering an even-handed overview of the rapidly expanding, and sometimes contentious, social-psychological literature on moral judgment and behavior. Second, Michal Kosinski has contributed a chapter on computational psychology (Chapter 21), offering a tutorial on the latest developments in the world of “big data” and computational analytic methods, along with a compelling discussion of how social psychology and big data can make for compatible bedfellows.

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Alongside these various updates, the second edition continues to underscore the strengths of social psychology, especially by illustrating how exciting the research questions are, highlighting the remarkable creativity behind the field’s research paradigms, and emphasizing the importance of psychological mechanisms underlying key findings. As a group, the chapter authors are not only eminent scholars but also terrific writers. They serve as deep-thinking, engaging tour guides through their area of primary expertise. Table 1.1 demonstrates this point by providing an illustrative research question from each chapter.

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### Onward and Upward

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As we look back at social psychology circa 2010, the images betray a sepia-toned innocence. This was a simpler discipline, one unaware of its replication problems and unprepared for the turbulence ahead. But it was also a field with many strengths. As social psychologists continue to make the changes required to bolster the replicability of our published findings, we can double down even more forcefully on those longstanding strengths. In this sense, the 2020s hold promise as social psychology’s best thus far.



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**TABLE 1.1** Illustrating the Sorts of Research Questions Addressed in the Remaining Chapters

Number	Title	Authors	Illustrative Research Question
1	Social Psychology: Crisis and Renaissance	Eli J. Finkel and Roy F. Baumeister	How did a study of extrasensory perception (ESP) help to launch a revolution in how social psychologists collect, analyze, and report their data?
2	A Brief History of Social Psychology	Harry T. Reis	How did Adolf Hitler alter the intellectual course of social psychology?
3	New Developments in Research Methods	Alison Ledgerwood	Why is preregistration so valuable, and what does a convincing preregistration plan look like?
4	Social Cognition	Susan T. Fiske	Why do we pay so much more attention to high-power people than they pay to us?
5	The Self	Roy F. Baumeister	If humans evolved from great apes, why are human selves so much more elaborate?
6	Attitude Structure and Change	Richard E. Petty, Pablo Brñol, Leandre R. Fabrigar, and Duane T. Wegener	Why are some persuasive appeals so much more convincing than others?
7	Social Influence	Robert B. Cialdini and Vladas Griskevicius	Is Leonardo da Vinci correct that “it is easier to resist at the beginning than at the end”—and, if so, why?
8	Aggression	Brad J. Bushman	How can social psychology contribute to a more peaceful world?
9	Attraction and Rejection	Eli J. Finkel and Roy F. Baumeister	Are heterosexual women attracted to different sorts of men during the fertile (vs. nonfertile) phase of their ovulatory cycle?
10	Close Relationships	Shelly L. Gable	How does our attachment to our parents when we are infants influence the success or failure of our romantic relationships when we are adults?
11	Intergroup Relations	Marilynn B. Brewer	Does the tendency to divide the world into “us” and “them” influence our thoughts, feelings, and behaviors even when the social groupings are entirely arbitrary?
12	Prejudice, Stereotyping, and Discrimination	John F. Dovidio and James M. Jones	What social-psychological interventions have been developed to reduce prejudice, stereotyping, and discrimination, and are they effective?
13	Psychological Perspectives on Morality	Linda J. Skitka and Paul Conway	Can behaving morally “license” us to behave immorally shortly afterward?
14	Emotion	Wendy Berry Mendes	How did Charles Darwin ultimately jump-start social-psychological research on emotion?
15	Social Neuroscience	Thalia Wheatley	What characteristics do our brains possess that allow us to be social in uniquely human ways?
16	Evolutionary Social Psychology	Jon K. Maner and Douglas T. Kenrick	How has the evolutionary imperative of reproduction influenced the psychology underlying our pursuit and maintenance of romantic relationships?
17	Cultural Psychology	Steven J. Heine	How does our cultural context influence the conclusions we draw about why a stranger enacted a certain behavior?
18	Health, Stress, and Coping	Theodore F. Robles	What are the psychological and biological processes through which social relationships make us more versus less prone toward physical illness?
19	Judgment and Decision-Making	Kathleen D. Vohs and Mary Frances Luce	Why is a system as sophisticated as the human mind so prone toward making a systematic set of errors in judgment and decision-making?
20	Personality	Charles S. Carver	Why must any comprehensive theory of social behavior dedicate substantial attention individual differences?
21	Computational Psychology	Michal Kosinski	How can scholars leverage the vast data people leave behind every day—for example, through behavior on smartphones or on social media—to develop novel insights into human nature?

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