10

ACADEMIC MISINFORMATION AND FALSE BELIEFS

Lee Jussim, Sonia Yanovsky, Nathan Honeycutt, Danit Finkelstein and Joel Finkelstein

Abstract

This chapter focuses on the problem of academic misinformation, which we define as confidently expressing something that someone considers important is true when it is actually false. To help distinguish truth from misinformation, we present a perspective regarding when published academic literature can be viewed as establishing scientific facts. We then use this perspective to identify and describe five reasons that claims appearing in the published literature can fail to constitute scientific facts: the Replication Crisis, allegiance biases, use of persuasive communication devices, propaganda scholarship and social pressure, including but not restricted to censorship, to present or not present some research or conclusion. We also identify specific examples illustrating manifestations of these sources of academic misinformation. We end by concluding that, if plummeting public confidence in academia is to be reversed, academics will need to do more to combat their own production of misinformation.

Misinformation has become a hot topic in both scholarship and the media. A search for "misinformation" on Google Scholar yielded over 500,000 hits. A regular Google search yielded over 190 million hits. A recent review of scientific misinformation (West & Bergstrom, 2021) opened with this extraordinary claim, "Misinformation has reached crisis proportions." In the present chapter, we review the bases for believing that too much of the academic psychology literature itself constitutes misinformation.

DOI: 10.4324/9781003509257-13

Consider claims ranging from absurd to simply wrong readily found in a famous, highly-cited paper. Jost et al. (2003) claimed that:

- Khruschev and Castro (and also Stalin, see their footnote 4) "may be considered politically conservative" because they defended the far left communist systems that they led (p. 343).
- Conservatives are less happy than liberals (there is overwhelming evidence supporting the opposite, e.g., Burton et al., 2015).
- Conservatives "rationalize" equality (although they reviewed several theories suggesting such rationalization takes place, none provided direct evidence for rationalization).
- Conservatives' beliefs are more distorted and biased than those of liberals (a claim now falsified by a vast literature – Ditto et al., 2019).

To better understand academic misinformation, this chapter is divided into two main sections. First, we discuss how to define misinformation and several of its common manifestations. We define "scientific fact" because, to distinguish misinformation from a fact, it helps to know what a fact is and when to believe that a social scientific empirical literature has established something previously unknown to be a fact (see also Fiedler; Forgas; Goel, this volume). The second major section reviews manifestations of academic misinformation: the Replication Crisis, allegiance biases, use of persuasive communication devices to hype research, propaganda masquerading as scholarship and social pressure to make or avoid certain claims.

What Is Misinformation?

Academic articles are filled with unduly complicated definitions of the term, when, in fact, it is quite simple: misinformation is a claim that is wrong. As such, the moral panic over misinformation is plausibly viewed as bizarre, given that humans have surely been getting at least some things wrong since the origin of the species. However, even we believe there is a little more to the term than mere wrongness, which we elucidate by contrasting misinformation with valid information.

Valid Information

Whole books have been written about validity, epistemology, logic, inference, induction, deduction, etc. We ignore all that. Instead, we employ the Trivial Account of Truth developed by philosopher Michael Huemer (2022) in a wonderful essay titled "The Appeal of Absurd Theories of Truth." This is how he describes the Trivial Account of Truth:

> Sometimes people say things. When you say things, sometimes stuff is the way that you say it is. Other times, it isn't. When stuff is the way that you

> say it is, we call your statements "true". When stuff is not the way that you say it is, we call your statements "false". For instance, if you say that all cats are green, then your statement is "true" if and only if all cats are green. That's it. I told you it was a simple and basic concept.

Huemer's Trivial Account of Truth only defines truth; it says nothing about how anyone, including scientists, can, do or should go about figuring out what is and is not true. We address these issues later in this chapter.

Misinformation

In this context, misinformation occurs when stuff is not the way someone says it is. Perhaps this is why Albarracin & Samayoa (this volume) consider any false belief to be misinformation. Our view is somewhat different., The psychology of the use of the term, "misinformation," usually implies more than that. We doubt most people would refer to trivial errors or semantic confusions as misinformation. If someone tells you that you can watch a sporting event on TV at 7 pm, and it's not on till 8 pm, we are pretty sure hardly anyone would label this "misinformation" because it is too trivial. So misinformation has to be about something considered important (and this can be different for different people). Similarly, there is a communications component to misinformation – one cannot identify or label something as misinformation if the error stays inside a single person's mind and is never expressed. To count as misinformation, the idea must be expressed to at least one other person, wrong and deemed important. Last, there is usually an arrogance or certainty component of misinformation. Duly qualified proclamations (e.g., those prefaced with "perhaps" or "maybe," those clearly flagged as predictions, guesses or speculation) are not likely to be seen as misinformation.

Combining these ideas, our definition of misinformation is: The confident expression as true of something that someone considers important when it is actually false, dubious, unclear or unknown.

What Are Scientific Facts?

How can one determine whether a scientific claim has become so well-established that it can be treated as a fact? One must address this question because misinformation sometimes involves claiming something is a fact when it is not. Thus, to identify misinformation, one needs to distinguish facts from nonfacts. When the claim or assumption that something is a fact is based on social science studies, and it is not, in fact, a fact, we have academic misinformation. Even claims that emerge from social science that are widely considered to be "facts" are often misinformation (see also chapters Fiedler; Forgas; Dunning; Sutton et al.; this volume).

Something is not a fact just because it is presented as such in a peer-reviewed publication or by a scientist stating so on mass or social media. The definition of scientific fact provided by Stephen Jay Gould (1981) provides a standard for evaluating whether something is a scientific fact: "In science, 'fact' can only mean 'confirmed to such a degree that it would be perverse to withhold provisional assent." This is worth unpacking in reverse order. "Provisional assent" means that scientific claims should be revised when clear and strong evidence is produced overturning some "established" conclusion. But this is usually quite difficult because when there is abundant evidence for some claim, withholding provisional assent is perverse. "Perverse" in this context means rigidly dogmatically clinging to a belief when there is a mountain of evidence demonstrating otherwise. It is, in the twenty-first century, perverse to believe that the Earth is flat.

We rely on Gould's definition in this chapter as a guidepost to distinguishing scientific facts from misinformation. However, we also articulated this corollary in a previous volume in this series (Jussim, Stevens, et al., 2019, p. 281): "Anything *not* so well established that it would not be perverse to withhold provisional assent is *not* an established scientific fact." The corollary is particularly useful for identifying academic misinformation (fact claims with evidence insufficient to establish a scientific fact in the Gouldian sense) and we use it throughout this chapter. As such, it is both consistent with perspectives arguing that all scientific "facts" are, in principle, disputable and its concomitant call for epistemic pluralism (Fiedler, this volume), while, at the same time, identifying a standard for considering some scientific findings to be facts (when there is so much evidence that it would be perverse to believe otherwise). It also permits escape from the types of delusional beliefs addressed by Dunbar; French; Forgas (this volume). Our corollary also means that the vast number of scientific studies on paranormal phenomena need not be interpreted as demonstrating such phenomena actually exist (despite the number of studies),= because so many seeming demonstrations of paranormal phenomena have been debunked, failed to replicate or demonstrated to arise from alternative non-paranormal sources (French, this volume); put differently, it remains very much ***not*** perverse to believe otherwise.

Different Types of Inaccurate Claims in Scholarship

A claim (including claims by scientists in peer-reviewed publications or elsewhere) can be inaccurate in several ways. It can be outright false, when there are ample logical or empirical reasons to know that the claim is false. Claiming that the implicit association test measures discrimination is false (it measures reaction times). We also consider claims inaccurate when they are unjustified by evidence. Unjustified scientific claims occur when a truth-claim

is made in a scientific context (journal article, chapter, research talk, poster, etc.):

- without presenting or citing any evidence
- citing a source that also makes the claim but presents no evidence for it
- citing a source that presents evidence that does not bear on that truth-claim
- citing a source that presents evidence that it claims as support, but the evidence fails to actually support it (by virtue of low rigor, measures of dubious validity, failure to rule out alternative explanations, etc.).

For example, claiming that planets other than Earth have life on them is not known to be false because it is possible. But, at present, there is no conclusive evidence that other planets actually have life on them. Whereas speculating about the possibility of life on other planets is reasonable, claiming (or implying) that it is a scientific fact that there is life on other planets is unjustified. Thus, it is also misinformation.

Claims can also be misinformed when they mislead by presenting an incomplete or distorted view of the available facts or evidence. These claims are not without evidentiary support because, in these cases, there is some evidence supporting the claim. For example, if one were to claim that Philadelphia is colder than Murmansk, this would be misleading. Even if one had evidence showing days in which the high temperature was colder in Philadelphia than in Murmansk, claiming that Philadelphia is colder than Murmansk is still misinformation. By cherrypicking the "right" day, one might present "evidence" supporting the claim that Philadelphia is colder than Murmansk, but the claim is misinformation because, in general, Murmansk is colder than Philadelphia. Even when claims appearing in scholarship are less obvious than this example, if they are based on selective reporting of evidence, they are misinformation.

Academic Misinformation

Anyone can express misinformation, including your uncle, the used car dealer, grandstanders on social media, and even young children. Nonetheless, our view is that it is particularly bad (dangerous, potentially costly and problematic) when someone does so claiming some mantle of expertise (see also Dunning, this volume). Thus, it is especially bad, in our view, when academics purvey misinformation because their claim to expertise can give them a veneer of credibility that, for example, used car dealers do not have. Dunning's (this volume) research finding that even experts and those high in cognitive ability are often excessively confident in their own incorrect beliefs can be viewed as laying out a plausible case for why peer review is insufficient to prevent misinformation from appearing in peer-reviewed psychology

journals. Forgas (this volume) reviews some of the delusional beliefs that have emerged from academia; although our perspective does not solve this problem, it does identify some of the reasons so many delusional beliefs often have an undeserved air of scholarly authority. Having articulated our perspective on the distinction between scientific facts and misinformation, the next section discusses common manifestations of academic misinformation.

The Replication Crisis

Publication ≠ scientific fact; p < .05 ≠ scientific fact. The Replication Crisis refers to the panic that ensued when psychologists discovered that many of their most cherished findings could not be replicated by independent teams (see, e.g., Nelson et al., 2018, for a review). Our view is that this was labeled a "crisis" as opposed to "normal operating procedure" because, apparently, many of the field's most famous researchers implicitly ascribed to "scientism" rather than to a "scientific" view of psychological research. As discussed in a previous chapter in the present series (Jussim, Stevens, et al., 2019, p. 284), scientism is excess faith in claims made by fallible scientists, even when publishing in peer-reviewed journals and even when they obtain "statistically significant, $p < .05$" findings, neither of which are, by themselves, sufficient to constitute establishing facts in the Gouldian sense.

Had there been a wider understanding that publication in a peer-reviewed journal and $p < .05$ do not constitute establishment of scientific facts in the Gouldian sense, no one would have treated such studies as having done so and failed replications would have been shrugged off as normal operating procedure, part of the inevitable "noise" of the scientific enterprise. But because prestigious scientists had made entire careers producing cute, dramatic, small N studies around which they could tell *amazing, dramatic stories!* (see Jussim et al., 2016, for a review), and they and much of the field of psychology labored under the misimpression that *they had established new scientific facts,* failed replications of their studies became a "crisis."

The replication base-rate = a coin flip. In this context, it was then not surprising that the long-term success rate for replications in psychology has hovered right around 50% (e.g., Boyce et al., 2023; Open Science Collaboration, 2015; Scheel et al., 2021). No one (we hope) would declare it to be a "fact" that a (balanced) coin flip generally comes up heads. Although this is obvious, then so is the implication that no one should be declaring something a fact just because it has been published in the peer-reviewed psychology literature, which, historically, has stood about a 50-50 chance of being replicable.

Instead, fact status should usually be reserved for findings that have been replicated by independent teams of researchers, preferably using some version of the registered report format (in which the research is accepted in principle by a journal based on the proposal, so that the results do not influence

publication, e.g., Nosek & Lakens, 2014). Absent this type of replication, it is not perverse to withhold provisional assent that something published has established a new scientific fact.

Academic misinformation by virtue of ignoring failed replications. Failed replications have little detectable effect on citations to the original study. Serra-Garcia and Gneezy (2021, abstract, p. 1), put it this way:

> …published papers in top psychology, economics, and general interest journals that fail to replicate are cited more than those that replicate. This difference in citation does not change after the publication of the failure to replicate. Only 12% of postreplication citations of nonreplicable findings acknowledge the replication failure.

Thus, academic publishing generally proceeds (88% of the time as per their findings) as if the failed replications do not even exist. Citing a study with some finding but failing to cite contrary findings is a known marker of propaganda scholarship (Gambrill, 2010, discussed later in this chapter in some depth) and we consider it the promotion of academic misinformation.

Allegiance Bias

Allegiance bias occurs when research produced by advocates of some phenomenon or intervention finds larger effects than those produced by scientists who are not advocates. Early in the study of the effectiveness of different types of psychotherapy (Smith, 1980; Luborsky et al., 1999), it was discovered that proponents sometimes yielded stronger effects for the type of therapy they advocated than for alternative therapeutic approaches (Luborsky et al., 1999; Smith, 1980).

Allegiance biases (or motivated distortions; see also Goel, this volume) do not appear in all research by advocates; nonetheless, the effect is common (e.g., Munder et al., 2013) and appears in research on topics other than clinical therapies. Consider research on growth mindset – the idea that students who believe they can improve are more likely to do so. A recent meta-analysis found a small but statistically significant overall effect of d = .05 for growth mindset interventions, but this was reduced to d = .02 and statistical nonsignificance when studies by authors with a financial incentive (such as giving paid talks or having books advocating growth mindset) were excluded (Macnamara & Burgoyne, 2022).

Allegiance biases raise the possibility that effects produced by advocates are misinformation. Although this is not *necessarily* the case (perhaps in the fullness of time, research by disinterested investigators will confirm the findings of the advocates), our view is that work produced by advocates should

be viewed skeptically. At best, they should not be treated as scientific facts in the Gouldian sense, pending disinterested scientists finding similar patterns. Thus, treating them as such before such independent replications have been conducted is academic misinformation.

Persuasive Communication Devices

Authors of academic articles sometimes use "persuasive communication devices" (see also Cooper & Packman; Crano, this volume) to: (1) Make for engaging reading, which is not problematic unless such writing misrepresents their own or others' scholarship or is used to camouflage the weaknesses and limitations of one's original work or (2) Render their work to appear more important than it really is, which is not legitimate (Corneille et al., 2023). Corneille et al. (2023) described 21 such devices but also suggested that their list was not exhaustive. We briefly describe six here as examples of the techniques researchers sometimes use to produce impressive-sounding but unjustified scientific claims:

- Ignoring previous work that is inconsistent with one's preferred conclusion or narrative.
- Selective reporting: not reporting or downplaying results that would weaken the paper.
- Selective appeal to rigor: holding claims one opposes to a higher scientific, evidentiary or methodological standard than one applies to claims one supports.
- Misleading use of references: citing many papers to create the false impression that abundant research supports the point, even though those papers do not actually do so.
- Hypothesizing after results are known (HARKing) to create the false impression that they were developed a priori, rather than constitute post hoc explanations for findings that were not actually predicted.
- Selective quotations taken out of context to make a particular point, when the fuller context would have created a very different picture.

Whether or not these and other persuasive communication devices are used with intention to deceive is irrelevant if the upshot is a paper that overstates support for its main claims. In such cases, it is academic misinformation.

Propaganda Scholarship

Propaganda scholarship refers to attempts to persuade others that some claim is true when it is, in fact, either false, unjustified or misleading (as described above) in any academic forum (peer review, conference

presentations, research talks, etc.). *Persuasive communication devices* described previously can be used in propaganda scholarship (see also Forgas, this volume).

Scientists sometimes make honest mistakes, but these can be distinguished from propaganda scholarship by virtue of whether the wrong claim is known to be false, unjustified or misleading at the time. Although there may be gray areas, this is often obvious, such as when a "scholarly" article makes a truth-claim without citing any evidence, by citing papers that make the claim without evidence or by ignoring evidence that contradicts the main claim. This is propaganda scholarship.

The earliest work on propaganda scholarship of which we are aware focused not on *political propaganda* but, instead, on the promotion of false, unjustified, and misleading *social scientific claims within* "helping professions" such as social work and psychotherapy (Gambrill, 2010, 2012; Gambrill & Reiman, 2011). This (Gambrill & Reiman, 2011) included a checklist including 32 indicators of propaganda that could be used by peer reviewers to evaluate of scholarly articles. Its value goes beyond pre-publication peer review and is just as useful for formal and informal post-publication peer review (such as shall be conducted herein). Gambrill (2010) and Gambrill and Reiman (2011) included some propaganda-indicators that overlap with both the *persuasive communication devices* (such as selectively ignoring contrary findings). We summarize a few of these indicators that do not overlap with others already presented:

- Possible harms of the view presented are not described.
- Vague terms are used.
- Evidence is not described in quantitative terms.
- Use of personal attacks and innuendo.
- Oversimplification.
- Hypocrisy (extolling some virtue or behavior but not implementing it one's self).
- Using social pressure or censorship to attempt to suppress, rather than debate or refute, alternative views.

Jussim and Honeycutt (2023) recently presented a series of tests for political propaganda masquerading as scholarship. Test 0 is necessary but not sufficient to establish political propaganda purporting to be scholarship: Does the study vindicate or advance some political narrative? Test 0 is necessary because if the claim is not political, it cannot be political propaganda. If the study does vindicate or advance some political narrative, one proceeds to of Tests 1, 2 or 3, at least one of which must also be passed.

Test 1 is whether an article misinterpreted or misrepresented research results in ways that unjustifiably advance a politicized narrative. If the results

show X and the claims based on the study are left of X, then the paper is propaganda. We focus on the left because academia skews so vastly left in its politics (Jussim et al., 2023) that there is minimal potential for rightwing propaganda, though, in principle, this analysis applies in any direction. For example, research on stereotype threat is widely misrepresented as showing that, without threat, Black and White students perform similarly on standardized tests – something which has never actually been reported (Jussim et al., 2016; Tomeh & Sackett, 2022).

Test 2 is whether authors systematically ignore papers and studies inconsistent with their ideology-affirming conclusions. A paper may appear "scientific" having all the trappings and forms of science – but may not deserve to be called "science," if it ignores evidence and analysis inconsistent with its narrative. This is often the case in work on implicit bias using the implicit association test (IAT), which routinely ignores critiques identifying flaws and limitations in the method. For example, IAT scores often overlap heavily with explicit prejudice meaning that, when they do so, little understanding is added through the use of this "implicit" method (Schimmack, 2021). Similarly, IAT scores of 0 are routinely interpreted as egalitarian, even though: (1) Almost no studies bother to assess empirically the IAT score that corresponds to egalitarian responding on other measures (Jussim et al., 2025) and (2) the one exception was a re-analysis of results from previously reported studies (that did not assess the point of egalitarian responding) and found that scores well above 0 corresponded to egalitarian responding (Blanton et al., 2015). Thus, any paper that treats 0 as egalitarian, without actually assessing the IAT score that corresponds to egalitarianism on other measures, is propaganda.

Test 3 is whether authors leaped to political conclusions based on weak data. Often academic publications that do advance an ideological narrative should be considered tentative or preliminary (e.g., if reporting empirical findings based on single studies or small samples). If the conclusions are expressed with certainty, the paper is politically biased. This criterion applies both to researchers making the original claims and scholars who cite or refer to those claims as if they are true, without acknowledging the scientific uncertainty that surrounds them. For example, this characterizes a great deal of research on microaggressions, which typically focuses on perceptions of potential victims. But microaggressions refer to behavior of perpetrators, not to perceptions of victims (Cantu & Jussim, 2021). Just as one cannot assess the speed of an airplane by pointing a radar gun at cars, one cannot assess microaggressions without assessing the behavior of potential perpetrators. Thus, all claims about microaggressions based on research focusing exclusively on the perceptions of victims is academic misinformation.

Social Pressure to Present or Not Present Some Finding or Conclusion

Social pressure to reach certain conclusions can undermine entire "scientific" literatures. Leading journals like *Nature* now explicitly use such unspecified normative criteria to refuse to publish otherwise properly executed and credible findings (Nature Human Behavior Editorial, 2022). Although Gambrill (2010) highlighted attempts to suppress certain ideas as a marker of propaganda, it was Joshi (2022) who first fully articulated how this works. Consider first social pressure to *not* make a claim critical of published research or some cherished program or policy, whether informal or official (e.g., through outright censorship – see Clark et al., 2023, for a review). When social pressure succeeds at suppressing falsification of X, the "scientific" literature may be dominated by papers finding or claiming that X is True, but only because the full scope of the evidence is not represented in the published literature.

This is most obvious for findings. In the abstract, consider a hypothetical situation where X is false, but only papers finding or claiming that X is true are permitted into the literature. The "scientific" literature will then be filled with paper after paper reporting that X is true, even though the full scope of the evidence, if it were permitted into the literature, would show that X is mostly or completely false. Furthermore, the situation need not be this draconian (wherein findings that X is false are not permitted at all) for it to distort a literature. If there are merely heightened disincentives for publishing that X is false, to the extent that many people follow incentives, even if there are *some* published papers showing that X is false, there will be far fewer than there might otherwise be without those disincentives.

The problem is similar for interpretations of facts and not just the facts themselves. The facts need not be in dispute, but the interpretations of those facts may well be (Jussim et al., 2016). If there is social pressure to avoid certain interpretations of those facts, the literature will still be distorted by its failure to represent those avoided interpretations. Thus, a field may foreclose on a false interpretation of the facts because alternative explanations for them have not even been considered.

This situation is not purely hypothetical. A slew of papers critical of diversity, equity and inclusion (DEI) initiatives have been subject to academic outrage mobs mobilizing via social media and online petitions to denounce and call for their retraction. For example, papers by Hudlicky (2020) and Wang (2020) were narrative reviews critical of DEI that were denounced by academic outrage mobs. Both were ultimately retracted (Retraction Watch, 2020a, b, c) – even though neither met COPE (Committee on Publication Ethics, n.d.) guidelines for retraction, which focus primarily on data fraud or massive error. Because these papers were reviews, they had no data to be in error and therefore could not possibly have met COPE guidelines for

retraction. Furthermore, the journal publishing Hudlicky's paper punished two of its editors with suspensions (Retraction Watch, 2020b).

In a similar incident, Klaus Fiedler, then editor of *Perspectives on Psychological Science*, accepted five papers critical of DEI and one by a DEI advocate who publicly denounced Fiedler and the other papers as racist (see Jussim, Honeycutt, et al., 2024 for details). This evoked another academic outrage mob, including almost 1,400 signing an online petition in just a few days calling for Fiedler to be fired, declaring the authors racist, and the papers to be retracted. Fiedler was ousted, and, although the papers were eventually published, the journal included a special statement declaring that Fiedler had mishandled the entire process (Wood et al., 2024). While there may be some brave souls in academia willing to publicly criticize DEI after such events, it seems far more likely that most will get the message, "It's your paper, but you might want to think about how this will bear on your reputation, your job and grant prospects and future promotions."

In this context, it should be entirely unsurprising that, even though DEI is highly controversial in the wider society, and has little or no scientific support or credibility (see Forgas, this volume), as far as we know, none of the mainstream psychology or social psychology organizations have conducted any sort of public debate about it. And how could they, if nearly all of their members either support it or are too intimidated to publicly declare their opposition to it? Furthermore, we doubt that this situation is restricted to DEI. This may help explain why it has taken over 20 years for criticisms of implicit bias, stereotype threat, and microaggressions to gain traction, but not yet mainstream acceptance – why risk being tainted as a bigot by critiquing such work? Better to move on and study something less likely to tarnish one's career.

Demonstrating that a literature is *wrong* because some evidence has been suppressed would seem to be an impossible task because, one might assume, all that one can actually show is what *is* in the literature, not what is not in the literature. However, there are several ways to show that social pressure to make or not make certain claims likely does exist:

1 The presence of academic "book burning." Jussim, Honeycutt, et al. (2024) used this term to refer to forced retractions of papers, usually at the hands of academic outrage mobs (typically via social media), despite no evidence that those papers violated the retraction guidelines of the Committee on Publication Ethics (n.d.). Instead, those retracted papers made claims that violated the social justice sensibilities of the mob (such as defending colonialism or criticizing diversity, equity and inclusion initiatives). This is exactly the type of censorship highlighted by Gambrill (2010) as indicative of propaganda.
2 Stark differences between the conventional published literature and registered reports (the format whereby journals make an accept/reject decision

based on a research proposal and allow the paper to be published, regardless of the subsequent results). When registered reports produce starkly different findings than routinely appears in a published literature (as they do, see Scheel et al., 2021), it at least raises red flags about social pressure distorting the published literature. This could occur, for example, because once a finding appears in the literature, it is easier to publish similar papers than contrary papers.

3 Vast citation differences to papers finding X than to papers of comparable or higher quality finding Not X or the opposite of X (see Honeycutt & Jussim, 2020 for examples). Researchers respond to incentives (e.g., Jussim, Krosnick, et al., 2019), and high citation counts have many benefits. Sometimes, they are used in hiring and promotion decisions to evaluate "impact" (indeed, some versions of citation counts are called "impact factors"). Furthermore, if academics would prefer to have more influence and visibility rather than less, knowing that a certain type of claim produces higher citations may create social pressure to make those claims.

Conclusion

In this chapter, we first presented a simple and clear definition of misinformation followed by a principled definition of when something is and is not an established scientific fact. We then used this general perspective and the standards it articulated to frame five ways in which psychological research can, and often has, failed to produce scientific facts and supported false and even delusional beliefs, despite a veneer of having done so stemming from the presumptive credibility of the mere fact of something appearing in a peer-reviewed journal. The Replication Crisis means that just because a paper is published, it cannot be assumed to be true, absent replication by independent teams. Allegiance bias means that, when research is published by activists and advocates, it cannot be assumed to be true, absent replication by researchers without allegiance to the method or intervention. The use of persuasive communication devices means that verbal virtuosity may sometimes mask weak studies, so that the findings need not be believed pending confirmation by other researchers. Similarly, the existence of propaganda scholarship means that, just because something is published in a peer-reviewed journal, it may still be propaganda. And the existence of social pressure and censorship means that incentives and punishments for presenting certain types of research or specific conclusions can corrupt and undermine not just individual papers, but whole areas of research.

Taken together, this means that, when researchers treat claims that appear in peer-reviewed journals as establishing scientific facts, without years of skeptical vetting by other researchers and replication by independent teams, they are promoting misinformation. An extreme example of this is the Henri

Tajfel affair. Based on a completely unsubstantiated claim that Henri Tajfel's lab was "mysoginist" published in a feminist journal, the executive of the European Association of Experimental Social Psychology decided to treat the claim as "fact," and without any further investigation, abolished the prestigious Henri Tajfel Prize. A senior researcher's name has been sullied decades after his death by unsubstantiated claims published in an academic journal.

This is a good example of treating something as a fact before it has actually been established as a fact. It may even turn out that they were right, but, if that was not known at the time, it was, at the time, misinformation. More generally, given both replication rates hovering around 50% and that even replicable research sometimes does not mean what the authors have claimed, the odds are actually against claims of new discoveries appearing in the peer-reviewed literature holding up to both skeptical scrutiny and replication.

Of course, sometimes, psychological science does produce credible findings. But those are restricted to those that have stood the test of time by virtue of having both been replicated by independent researchers and by relentlessly ruling out alternative interpretations and explanations generated by the wider scientific field. Our view is that the rapidly declining credibility of academia (Brenan, 2023) has been induced, in part, by the types of academic misinformation described herein (see also Forgas; Fiedler, this volume). Vast amounts of public funding are spent on famous yet frivolous and flawed research and on scholarship advancing ideological values and worldviews rather than understanding social phenomena and social problems. One can only hope that enough social scientists come to their senses before ham-handed demagogues do permanent damage by, e.g., revoking tenure and instituting draconian funding cuts. Preventing misinformation starts at home.

References

Albarracin, D., & Samayoa, J. A. G. (in press). Beyond confrontation: Bypassing and motivational interventions to curb the impact of false beliefs. To appear in *The psychology of false beliefs* (J. Forgas, editor). Routledge.

Blanton, H., Jaccard, J., Strauts, E., Mitchell, G., & Tetlock, P. E. (2015). Toward a meaningful metric of implicit prejudice. *Journal of Applied Psychology, 100*(5), 1468.

Boyce, V., Mathur, M., & Frank, M. C. (2023). Eleven years of student replication projects provide evidence on the correlates of replicability in psychology. *Royal Society Open Science, 10*(11), 231240.

Brenan, M. (2023). Americans' confidence in higher education sharply down. https://news.gallup.com/poll/508352/americans-confidence-higher-education-down-sharply.aspx

Burton, C. M., Plaks, J. E., & Peterson, J. B. (2015). Why do conservatives report being happier than liberals? The contribution of neuroticism. *Journal of Social and Political Psychology*, *3*(1), 89–102.

AU: Please update the year and page range for the reference Albarracin & Samayoa in press.

Cantu, E., & Jussim, L. (2021). Microaggressions, questionable science, and free speech. *Texas Review of Law & Politics*, *26*, 217.

Clark, C. J., Jussim, L., Frey, K., Stevens, S. T., Al-Gharbi, M., Aquino, K., … & von Hippel, W. (2023). Prosocial motives underlie scientific censorship by scientists: A perspective and research agenda. *Proceedings of the National Academy of Sciences, 120*(48), e2301642120.

Committee on Publication Ethics (n.d.). *Retraction guidelines*. Retrieved from: https://publicationethics.org/retraction-guidelines

Corneille, O., Havemann, J., Henderson, E. L., Ijzerman, H., Hussey, I., Orban de Xivry, J. J., … & Lotter, L. D. (2023). Point of view: Beware 'persuasive communication devices' when writing and reading scientific articles. *Elife, 12*, e88654.

Crano, W. (in press). The birth, development, and transformation of false beliefs. To appear in *The psychology of false beliefs* (J. Forgas, editor). Routledge.

Ditto, P. H., Liu, B. S., Clark, C. J., Wojcik, S. P., Chen, E. E., Grady, R. H., … & Zinger, J. F. (2019). At least bias is bipartisan: A meta-analytic comparison of partisan bias in liberals and conservatives. *Perspectives on Psychological Science*, *14*(2), 273–291.

Dunbar, R. (in press). Religion and the susceptibility to false beliefs. To appear in *The psychology of false beliefs* (J. Forgas, editor). Routledge.

Dunning, D. (in press). False belief among experts and the cognitively able. To appear in *The psychology of false beliefs* (J. Forgas, editor). Routledge.

Fiedler, K. (in press). On the illusion of correct beliefs and the suspicion the correct beliefs may not exist. To appear in *The psychology of false beliefs* (J. Forgas, editor). Routledge.

Forgas, J. P. (in press). Tribal delusions in academia: Three elephants standing on a turtle. To appear in *The psychology of false beliefs* (J. Forgas, editor). Routledge.

French, C. C. (in press). The psychology of paranormal beliefs. To appear in *The psychology of false beliefs* (J. Forgas, editor). Routledge.

Gambrill, E. (2010). Evidence-informed practice: Antidote to propaganda in the helping professions? *Research on Social Work Practice*, *20*(3), 302–320.

Gambrill, E. (2012). *Propaganda in the helping professions*. Oxford University Press.

Gambrill, E., & Reiman, A. (2011). A propaganda index for reviewing problem framing in articles and manuscripts: An exploratory study. *PLoS One*, *6*(5), e19516.

Goel, V. (in press). False beliefs and the tethered mind. To appear in *The psychology of false beliefs* (J. Forgas, editor). Routledge.

Gould, S. J. (1981). *Evolution as fact and theory*. The Unofficial Stephen Jay Gould Archive. https://wise.fau.edu/~tunick/courses/knowing/gould_fact-and-theory.html

Honeycutt, N., & Jussim, L. (2020). A model of political bias in social science research. *Psychological Inquiry*, *31*(1), 73–85.

Hudlicky, T. (2020). "Organic synthesis—Where now?" Is thirty years old. A reflection on the current state of affairs. Retrieved from: https://drive.google.com/file/d/1yE_j7xoefegDWLwbdeFr2Sgqyl9Wnmt2/view

Huemer, M. (2022). The appeal of absurd theories of truth. https://fakenous.substack.com/p/the-appeal-of-absurd-theories-of-truth

Joshi, H. (2022). The epistemic significance of social pressure. *Canadian Journal of Philosophy, 2*, 396–110.

Jost, J. T., Glaser, J., Kruglanski, A. W., & Sulloway, F. J. (2003). Political conservatism as motivated social cognition. *Psychological Bulletin*, *129*(3), 339–375.

AU: Please update the year and page range for the reference Crano, in press.

AU: Please update the year and page range for the reference Dunbar, in press.

AU: Please update the year and page range for the reference Dunning, in press.

AU: Please update the year and page range for the reference Forgas, in press.

AU: Please update the year and page range for the reference Fiedler, in press.

AU: Please update the year and page range for the reference French, in press.

Jussim, L., Crawford, J. T., Anglin, S. M., Stevens, S. T., & Duarte, J. L. (2016). Interpretations and methods: Towards a more effectively self-correcting social psychology. *Journal of Experimental Social Psychology*, *66*, 116–133.

Jussim, L., & Honeycutt, N. (2023). Psychology as science and as propaganda. *Psychology Learning & Teaching*, *22*(3), 237–244.

Jussim, L., Honeycutt, N., Careem, A., Bork, N., Finkelstein, D., Yanovsky, S., & Finkelstein, J. (2024). The new book burners: Academic tribalism. In J. Forgas (Ed.), *The tribal mind and the psychology of collectivism* (pp. 227–246). New York: Taylor and Francis.

Jussim, L., Honeycutt, N., Paresky, P., Careem, A., Finkelstein, D., & Finkelstein, J. (2023). The radicalization of the American Academy. In *The Palgrave handbook of left-wing extremism* (Vol. 2, pp. 343–366). New York: Palgrave MacMillan.

Jussim, L., Krosnick, J. A., Stevens, S. T., & Anglin, S. M. (2019). A social psychological model of scientific practices: Explaining research practices and outlining the potential for successful reforms. *Psychologica Belgica*, *59*(1), 353.

Jussim, L., Stevens, S. T., Honeycutt, N., Anglin, S. M., & Fox, N. (2019). Scientific gullibility. In *The social psychology of gullibility* (pp. 279–303). Routledge.

Jussim, L., Yanovsky, S., Careem, A., Honeycutt, N., & Finkelstein, D. (2025). Limitations, contestations, failures and falsification of dramatic claims in intergroup relations. In T. Nelson (Ed.), *The handbook of prejudice, stereotyping and discrimination* (pp. 17–55). New York: Routledge.

Luborsky, L., Diguer, L., Seligman, D. A., Rosenthal, R., Krause, E. D., Johnson, S., … & Schweizer, E. (1999). The researcher's own therapy allegiances: A "wild card" in comparisons of treatment efficacy. *Clinical Psychology: Science and Practice, 6*(1), 95.

Macnamara, B. N., & Burgoyne, A. P. (2022). Do growth mindset interventions impact students' academic achievement? A systematic review and meta-analysis with recommendations for best practices. *Psychological Bulletin, 149*(3–4), 133–173. https://doi.org/10.1037/bul0000352

Munder, T., Brütsch, O., Leonhart, R., Gerger, H., & Barth, J. (2013). Researcher allegiance in psychotherapy outcome research: An overview of reviews. *Clinical Psychology Review, 33*(4), 501–511.

Nature Human Behavior Editorial. (2022). Science must respect the dignity and rights of all humans. *Nature Human Behavior, 6*, 1029–1031.

Nelson, L. D., Simmons, J., & Simonsohn, U. (2018). Psychology's renaissance. *Annual Review of Psychology*, *69*, 511–534.

Nosek, B. A., & Lakens, D. (2014). Registered reports. *Social Psychology, 45*(3), 137–141. https://doi.org/10.1027/1864-9335/a000192

Open Science Collaboration. (2015). Estimating the reproducibility of psychological science. *Science, 349*(6251), aac4716.

Retraction Watch. (2020a). *Following outrage, chemistry journal makes a paper decrying diversity efforts disappear.* https://retractionwatch.com/2020/06/05/following-outrage-chemistry-journal-makes-a-paper-decrying-diversity-efforts-disappear/

Retraction Watch. (2020b). *Controversial essay at German chemistry journal leads to suspensions, mass resignations.* https://retractionwatch.com/2020/06/08/controversial-essay-at-german-chemistry-journal-leads-to-suspensions/

Retraction Watch. (2020c). *A retraction and a retraction request as Twitter users call out sexism, fat-shaming, and racism.* https://retractionwatch.com/2020/08/06/a--retraction-and-a-retraction-request-as-twitter-users-call-out-sexism-fat-shaming-and-racism/

Scheel, A. M., Schijen, M. R., & Lakens, D. (2021). An excess of positive results: Comparing the standard psychology literature with registered reports. *Advances in Methods and Practices in Psychological Science*, *4*(2), 25152459211007467.

Schimmack, U. (2021). The Implicit Association Test: A method in search of a construct. *Perspectives on Psychological Science, 16*(2), 396–414.

Serra-Garcia, M., & Gneezy, U. (2021). Nonreplicable publications are cited more than replicable ones. *Science Advances, 7*(21), eabd1705.

Smith, M. L. (1980). Sex bias in counseling and psychotherapy. *Psychological Bulletin, 87*(2), 392.

Tomeh, D. H., & Sackett, P. R. (2022). On the continued misinterpretation of stereotype threat as accounting for Black-White differences on cognitive tests. *Personnel Assessment and Decisions, 8*(1), 1.

Wang, N. C. (2020, retracted). Diversity, inclusion, and equity: Evolution of race and ethnicity considerations for the cardiology workforce in the United States of America from 1969 to 2019. *Journal of the American Heart Association*, *9*(7), e015959.

West, J. D., & Bergstrom, C. T. (2021). Misinformation in and about science. *Proceedings of the National Academy of Sciences*, *118*(15), e1912444117. https://www.pnas.org/doi/full/10.1073/pnas.1912444117

Wood, W., Martin, R., Gopnik, A., & Gropp, R. (2024). Papers involved in the December 2022 APS vote of no confidence in the Editor-in-Chief of Perspectives on Psychological Science. *Perspectives on Psychological Science*, *19*(3), 555–557.