August 30, 2015

Pickerhead grew up in the fifties, a Yankee fan. Then to perform penance, allegiance was switched to the Chicago Cubs. But, this is a happy year. **Five Thirty Eight** blog found a way to measure fan enthusiasm and Cub fans are in the lead.

Baseball teams have a way of dragging their fans' moods with their fortunes on the field. It's no fun to root for a perpetually losing team, especially if its performance seems unlikely to improve. Conversely, an unexpected contender has a way of lifting one's spirits.

But wins and losses are much easier to measure than happiness. We do have a proxy, though: the masses at Reddit. I scraped comments from each team's subreddit on the website and determined how happy their comments were. To do that I used sentiment analysis, collecting the words used by each fan base to determine their overall level of joy. More positive words ("win," "wow," "wonderful") point to a happier fan base, and more negative words ("unimpressed," "miserable," "wrong") suggest the opposite.

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Scientific American describes coyote hunts in NY City.

Three wildlife biologists swat at the forest undergrowth, still soaked from the morning's summer thunderstorm, trekking deep into the woods until they find what they are looking for: a camera tied to a tree. They had set it up weeks ago to spy on the coyotes. A plane suddenly flies overhead, interrupting the tranquil hush of the forest. This is a New York City park, after all.

The camera traps are one of several methods the Gotham Coyote Project is using to track coyotes as they migrate into New York City, along with citizen science sightings, scat collection and now environmental DNA surveys. Mark Weckel, co-founder of the project, which is affiliated with the American Museum of Natural History (AMNH), estimates that at least 20 coyotes live in the city, most of them in the Bronx. But the wily animal is slowly claiming territory in Queens and Manhattan, as numerous news outlets reported this spring, ranging as far south as Battery Park at the tip of Lower Manhattan.

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The NY Times reports half of social psychology studies are flawed.

The past several years have been bruising ones for the credibility of the social sciences. A star social psychologist was caught fabricating data, leading to more than 50 retracted papers. A top journal published a study supporting the existence of ESP that was widely criticized. The journal Science pulled a political science paper on the effect of gay canvassers on voters' behavior because of concerns about faked data.

Now, a painstaking yearslong effort to reproduce 100 studies published in three leading psychology journals has found that more than half of the findings did not hold up when retested. The analysis was done by research psychologists, many of whom volunteered their time to double-check what they considered important work. Their conclusions, reported Thursday in the journal Science, have confirmed the worst fears of scientists who have long worried that the field needed a strong correction.

The vetted studies were considered part of the core knowledge by which scientists understand the dynamics of personality, relationships, learning and memory. Therapists and educators rely on such findings to help guide decisions, and the fact that so many of the studies were called into question could sow doubt in the scientific underpinnings of their work.

"I think we knew or suspected that the literature had problems, but to see it so clearly, on such a large scale — it's unprecedented," said Jelte Wicherts, an associate professor in the department of methodology and statistics at Tilburg University in the Netherlands. ...

... The project began in 2011, when a University of Virginia psychologist decided to find out whether suspect science was a widespread problem. He and his team recruited more than 250 researchers, identified the 100 studies published in 2008, and rigorously redid the experiments in close collaboration with the original authors.

The new analysis, called the Reproducibility Project, found no evidence of fraud or that any original study was definitively false. Rather, it concluded that the evidence for most published findings was not nearly as strong as originally claimed. ...

More on this important subject from **Scientific American**.

Investigators across five continents reported that they were able to replicate only about 40 percent of the results from 100 previously published studies in cognitive and social psychology, in a study described today in the influential journal Science. The massive collaboration, called the Reproducibility Project: Psychology, could serve as a model for examining reproducibility of research in other fields, and a similar effort to scrutinize studies in cancer biology is already underway.

Central to the scientific method, experiments "must be reproducible," says Gilbert Chin, a senior editor at Science. "That is, someone other than the original experimenter should be able to obtain the same findings by following the same experimental protocol." The more readily a study can be replicated, the more trustworthy its results. But "there has been growing concern that reproducibility may be lower than expected or desired," says corresponding author Brian Nosek, a psychology professor at the University of Virginia.

To address the problem, scientists across many disciplines established the Center for Open Science (COS) in Charlottesville, Va. The Reproducibility Project: Psychology, their first research initiative, began recruiting volunteers in 2011. They asked teams of researchers, totaling 270 collaborating authors, to choose from a pool of studies—all reflecting basic science and not requiring specialized samples or equipment—that appeared in 2008 in one of three respected psychology journals: Psychological Science; Journal of Personality and Social Psychology; and Journal of Experimental Psychology: Learning, Memory and Cognition. ...

Last week we previewed the publication of the fourth volume of the ***Girl with the Dragon Tattoo***. Now reviews are out, and for the most part, are favorable. We'll start with the **NY Times**.

Fans of Stieg Larsson's captivating odd couple of modern detective fiction — the genius punk hacker Lisbeth Salander and her sometime partner, the crusading investigative journalist Mikael Blomkvist — will not be disappointed by the latest installment of their adventures, written not by their creator, Stieg Larsson (who died of a heart attack at the age of 50 in 2004), but by a Swedish journalist and author named David Lagercrantz. Though there are plenty of lumps in the novel along the way, Salander and Blomkvist have survived the authorship transition intact and are just as compelling as ever.

"The Girl in the Spider's Web" finds the pair drawn into the case of the enigmatic computer scientist Frans Balder: a prominent expert in artificial intelligence who's become ensnared in a global intrigue involving the Swedish Security Police (Sapo), the Russian mob, Silicon Valley industrial spies and United States national security interests.

Mr. Lagercrantz's efforts to connect unsavory doings in Sweden to machinations within America's National Security Agency are strained and fuzzy — a bald attempt to capitalize on Edward J. Snowden's revelations about the agency and the debate over its surveillance methods. But then, readers weren't smitten by "The Girl With the Dragon Tattoo" because of its plotting (which relied heavily on straight-to-video serial-killer-movie clichés), its plausibility or Larsson's anti-authoritarian politics. They were smitten with that novel and its two sequels — "The Girl Who Played With Fire" and "The Girl Who Kicked the Hornet's Nest" — because of the fierce charm of Salander and Blomkvist, and their unlikely chemistry. And because Larsson was so adroit at conjuring a moody, noirish Sweden that turned the stereotype of a clean, bright Scandinavia (where people drive Volvos and buy Ikea furniture) back into a land of long winters, haunted by the ghosts of Strindberg and Bergman. ...

... "Spider's Web" is less bloody, less horror movie lurid than its predecessors. In other respects, Mr. Lagercrantz seems to have set about — quite nimbly, for the most part — channeling Larsson's narrative style, mixing genre clichés with fresh, reportorial details, and plot twists reminiscent of sequences from Larsson's novels with energetically researched descriptions of the wild, wild West that is the dark side of the Internet. Presumably, the N.S.A. has been dragged into the story partly as a means of paying homage to Larsson's anti-authoritarianism and his dark view of state power (developed most fully in "Hornet's Nest," which grappled with political corruption in Sweden and the malfeasance of Sapo). ...

The reviewer at the **Washington Post** was less taken with the whole enterprise. Even though reviews were mostly good, we'll add that so we can be fair and balanced.

One of the great sagas of modern publishing began in Sweden in 2004 when a left-wing journalist delivered a ridiculously long manuscript to his publisher. The aspiring novelist, who died of a heart attack a few months later at the age of 50, was of course Stieg Larsson. His editor recognized the value of what he had written and also that it should be published as three related novels. She later said that when the first of the novels, "The Girl With the Dragon Tattoo," appeared, she would have been happy if it had sold 10,000 copies. Instead, at last report, the three novels in Larsson's Millennium trilogy have sold in excess of 80 million copies worldwide. Their success was richly deserved. The novels offer a strikingly intelligent, gripping,

angry look at political and corporate corruption in Sweden and, by implication, throughout the Western world.

Like countless readers, I would welcome a fourth novel in the series that equaled the high standard set by Larsson, but "The Girl in the Spider's Web" is not that novel. Authorized by Larsson's father and brother, who were his heirs, and written by Swedish writer David Lagercrantz, the new book brings back Lisbeth Salander and Mikael Blomkvist, the heroes and occasional lovers of the trilogy. It's fitfully interesting, but more often the story is disjointed and annoying.

"The Girl With the Dragon Tattoo" started out as a conventional mystery about a missing girl. More than anything else, "The Girl in the Spider's Web" is a novel about hacking. ...

Five Thirty Eight

The Happiest And Saddest Fans In Baseball

We looked at every team's Reddit thread to find out.

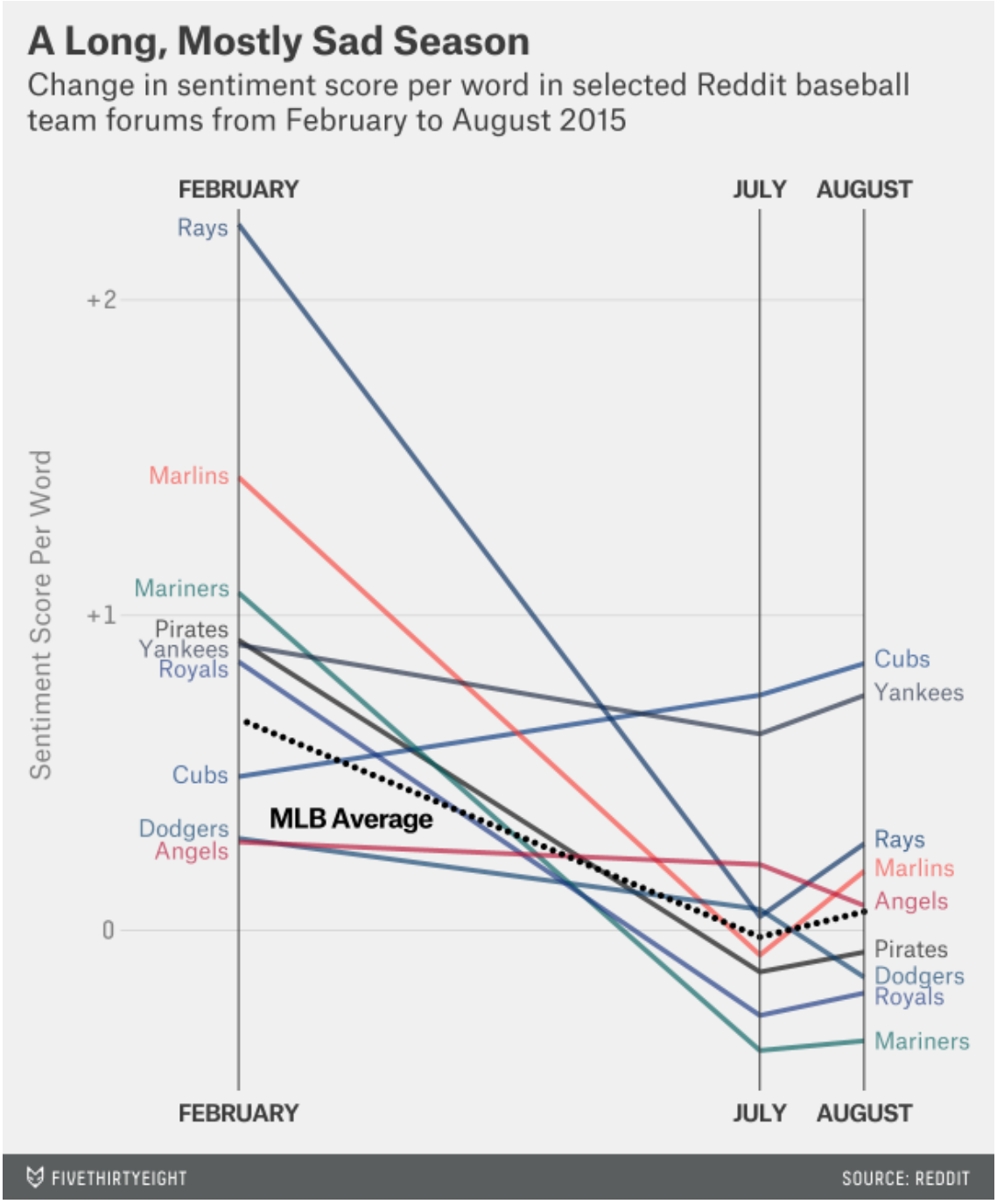
by Rob Arthur

Teammates congratulate Chicago Cubs second baseman Addison Russell after he scored on a hit by Kris Bryant during a July 20 game against the Cincinnati Reds in Cincinnati. Cubs fans are the only ones who have gotten happier over this MLB season.

Baseball teams have a way of dragging their fans' moods with their fortunes on the field. It's no fun to root for a perpetually losing team, especially if its performance seems unlikely to improve. Conversely, an unexpected contender has a way of lifting one's spirits.

But wins and losses are much easier to measure than happiness. We do have a proxy, though: the masses at Reddit. I scraped comments from each team's subreddit on the website and determined how happy their comments were. To do that I used sentiment analysis, collecting the words used by each fan base to determine their overall level of joy. More positive words ("win," "wow," "wonderful") point to a happier fan base, and more negative words ("unimpressed," "miserable," "wrong") suggest the opposite.

Here are some highlights of what I found (a full table is at the bottom of this post):



There are some caveats, as there always are with sentiment analysis. The word list I used was calibrated to a sentiment analysis of Twitter — it's possible that language is used differently on Reddit, and so the sentiment scores may not be as calibrated to the medium as they would be if we had Reddit-centric sentiment scoring. For example, the word "damn" is rated as strongly negative, since it is usually a negative exclamation ("damn, we lost again"). However, it can also be used in a positive sense: "damn, that was our fifth straight win, we are pretty good." And maybe people on Reddit "damn" more positively than the hordes on Twitter. (The same can go for any word used atypically in any sentence, making its meaning different from how the algorithm interpreted it.) Also, people who write on Reddit do not constitute a random sample of a team's fans.

But let's get back to the results. Hope springs eternal in the offseason but is extinguished for many fan bases by July. That makes sense given how many teams don't have any hope left. In the preseason, only one team — the Phillies — had playoff odds less than 1 percent, per FanGraphs. Now, 11 teams have odds less than 1 percent. Sentiment scores per word — our index of happiness — tended to be between 0.3 and 1 on the sentiment scale in the offseason, indicating that the average word was a positive one (between a neutral word and the word "agreement"). Nowadays, the same scores have plunged. Clearly the grind of the MLB season wears on the fans' happiness as it does the players.

Every fan base lost some of its happiness from the preseason, save one: the Chicago Cubs, who increased their sentiment score by a bit. The Cubs have not only been contenders in the crowded National League Central, they have also seen a number of top prospects called up, most notably Kris Bryant (but also Addison Russell and Kyle Schwarber). Not only are the Cubs contending a little earlier than expected — the future is even brighter.

All other teams' fans have become much less happy since February, but not all by the same amount. The change in sentiment score from February to July is roughly in proportion to the change in playoff odds of each team. Teams that made strides in their playoff hopes such as the Yankees, Angels and Dodgers have seen the smallest declines in sentiment since February. At the other end of the spectrum, teams such as the Mariners, Athletics and Padres have seen their playoff odds tumble. Their fan bases also have had some of the most pronounced declines in sentiment scores per word.

From July to August, sentiment scores were steady, fluctuating about four times less than they did from February to July. The trade deadline didn't seem to do much to move the needle in terms of fan happiness, but the teams that did gain are mostly the ones you'd expect: the Blue Jays (who strengthened their roster enormously), the Cardinals (who locked down a playoff spot) and a few others who were riding winning streaks. On the other side, the Tigers lost happiness, witnessing their championship window close and their highly regarded general manager leave.

Although on-field success can buy happiness, it doesn't seem to work for every team. The Royals have gained the most playoff probability of any team since the preseason, but they lost the fourth-most happiness from the offseason to July. There are any number of potential reasons for the relative grumpiness of Royals fans, but one may be that fans were more optimistic about the Royals than the projection systems. While contention in Kansas City may seem surprising to sabermetricians, it may not to Royals fans who were riding high off a World Series appearance.

Conversely, failure on the field isn't necessarily enough to dissuade a happy fan base. The Phillies, hopeless since the beginning of the year, nevertheless have fans who aren't that much

sadder than they were before the season. Despite the loss of erstwhile ace Cole Hamels at the trade deadline, fans have gotten happier since July — his trade and others signaled a shift in direction for the team toward rebuilding. As above with the Cubs, fan bases seem to not only weigh the present but also to consider the prospect for future improvement.

There are also some inexplicable cases such as that of the Rays, whose fan base declined in sentiment much more dramatically than their playoff odds would lead one to expect. It's possible that the Rays' 4-8 slide in July before the All-Star break had something to do with it, or the seven-game losing streak from June 28 to July 4. The streaks, winning and losing, may play havoc with fans' emotions, causing people to see false patterns suggesting imminent decline in what is mostly random fluctuation.

Obviously, we're grasping for answers as to *why* fans are happier or sadder as the season goes by. But the general trend seems to be that a complex calculus of current performance and hope for the future dictates how happy each team's fan base feels. Of course, it all resets come March. Hang tight, Reds fans. Only a few more months to go.

SENTIMENT SCORE

TEAM	FEBRUARY	JULY	AUGUST
Cardinals	+0.44	-0.26	-0.02
Pirates	+0.92	-0.13	-0.07
Dodgers	+0.29	+0.07	-0.15
Nationals	+0.61	-0.11	-0.18
Royals	+0.85	-0.27	-0.20
Yankees	+0.90	+0.62	+0.74
Angels	+0.28	+0.21	+0.08
Cubs	+0.49	+0.74	+0.84
Astros	+0.87	+0.09	+0.11
Giants	+0.50	-0.04	+0.05
Twins	+0.41	-0.03	-0.10
Mets	+0.23	-0.19	-0.04
Blue Jays	+0.28	-0.03	+0.21
Tigers	+0.55	+0.15	-0.11
Red Sox	+0.63	-0.27	-0.12
Orioles	+0.43	-0.07	+0.08
Indians	+0.66	+0.05	-0.02
Rays	+2.24	+0.04	+0.27
Mariners	+1.07	-0.38	-0.35
White Sox	+0.94	0.00	-0.07
Padres	+0.94	-0.11	+0.13
Diamondbacks	+0.28	+0.04	+0.17
Athletics	+0.62	+0.10	+0.10
Rangers	+0.24	-0.78	-0.08
Braves	+0.46	+0.11	+0.08
Reds	+0.58	-0.04	-0.22

	SENTIMENT SCORE		
TEAM	FEBRUARY	JULY	AUGUST
Marlins	+1.44	-0.08	+0.19
Brewers	+0.71	-0.29	-0.06
Rockies	+0.88	+0.13	+0.12
Phillies	+0.35	+0.05	+0.35

Scientific American

Cameras Catch Coyotes as They Take Manhattan [Slide Show]

The Gotham Coyote Project is using cameras, citizen scientists and environmental DNA to study coyotes as they move into New York City, and eventually, Long Island

by Rebecca Harrington

A coyote stops in front of a Gotham Coyote Project camera in the South Bronx the night of July 8, 2015. Coyotes are mostly nocturnal animals, so a lot of the photos from the project's camera traps are taken at night.

Three wildlife biologists swat at the forest undergrowth, still soaked from the morning's summer thunderstorm, trekking deep into the woods until they find what they are looking for: a camera tied to a tree. They had set it up weeks ago to spy on the coyotes. A plane suddenly flies overhead, interrupting the tranquil hush of the forest. This is a New York City park, after all.

The camera traps are one of several methods the Gotham Coyote Project is using to track coyotes as they migrate into New York City, along with citizen science sightings, scat collection and now environmental DNA surveys. Mark Weckel, co-founder of the project, which is affiliated with the American Museum of Natural History (AMNH), estimates that at least 20 coyotes live in the city, most of them in the Bronx. But the wily animal is slowly claiming territory in Queens and Manhattan, as numerous news outlets reported this spring, ranging as far south as Battery Park at the tip of Lower Manhattan.

The spread of coyotes into New York City and other urban areas across the U.S. is the latest chapter in their impressive success story, says wildlife specialist Stan Gehrt of The Ohio State University, who has studied Chicago's coyotes for more than 12 years. Government-sponsored poison initiatives in the 1970s and hunting programs that still exist today have killed millions of coyotes in the U.S. But the has species endured. Historically, the coyote never lived in the eastern U.S. but an opportunity arose in the late 1800s as people killed the gray wolf, the region's native top predator, and deforested huge areas. As forests grew back and cities got greener, the coyote started to move into the apex predator position vacated by the wolf.

Long Island is one of the last remaining swaths of land in the continental U.S. for coyotes to colonize. It's just a matter of time before the coyote moves in, says Coyote Project co-founder and Mianus River Gorge research director Chris Nagy, and the team will be there to study the invasion. It's the kind of ideal before-and-after science experiment (pdf) that biologists rarely, if ever, get to conduct in nature. In the next year, Weckel says, the team will likely have the project up and running to study the environmental impacts coyotes will have on the ecosystems of Long Island as well as the social impacts the animals will have on people there.

In addition to camera traps, the researchers are using a new method to track the coyotes. In 2012 scientists from the Natural History Museum of Denmark identified different fish species just from the environmental DNA (eDNA) left behind in seawater. Since then, as sequencing technologies have become more and more powerful, eDNA has offered an attractive, noninvasive way to track animals. AMNH postdoctoral researcher Anthony Caragiulo collected soil samples from several Coyote Project camera sites and in the next few months will determine if eDNA will work for coyotes.

Observations of the Chicago coyotes suggest that their counterparts in New York City will do just fine. Gehrt uses radio collars on some of the coyotes in Chicago, which he says have shown him how easily they adapt to urban spaces. Coyotes travel along railroad tracks, bridges and even swim across lakes and rivers if they have to. They have now colonized downtown Chicago—one of the most developed areas in the country—and Gehrt says they're actually showing positive population growth there. "We consistently underestimated them," he says, "and we tend to put them in these nice envelopes or boundaries, which is really just a reflection of our limited understanding."

Coyotes are territorial creatures, so they have a tendency of filling in all the space available to them over time. They mate for life, and the pups will usually stay with their parents for a couple years before setting off to claim territories of their own. Coyotes prefer to avoid humans at all costs, Weckel says. And diet studies have shown that when human food is available, coyotes actually choose to keep eating their natural fare of small mammals, fruit and insects. Gehrt says coyotes can provide crucial ecosystem services in cities by controlling explosive rodent populations—a welcome benefit for New Yorkers.

But in order for coyotes to successfully colonize cities, humans should let them be. Daniel Bogan, a behavioral ecologist at Siena College who has studied coyote–human interactions in New York State, says best practices include refraining from feeding coyotes so they don't lose their wariness of humans, and keeping dogs on leashes so they don't become a coyote's next meal. "If there's anything people should understand, [it] is that they should not live in fear of coyotes," Bogan remarks. "They should take the proper precautions but they should not live in fear."

View a slide show of New York City coyotes.

After the morning of intense fieldwork in the woods the three scientists stopped for lunch at a Bronx diner. Weckel pulled out his laptop before he even checked the menu, flipping through hundreds of photos from the camera traps, searching for coyotes.

Suddenly pausing his lightning-fast photo survey, Weckel gasped. Nagy and Caragiulo leaned across the table to see his computer screen. It displayed a nighttime shot of a coyote standing directly in front of the camera with its head turned in a perfect silhouette. It was the first time they'd seen a coyote in the summer at that park in the South Bronx. "If you look somewhere long enough," Nagy said with a smile, "you'll find them."

NY Times

Many Psychology Findings Not as Strong as Claimed, Study Says

by Benedict Carey

Brian Nosek, right, and other members of the Reproducibility Project at the Center for Open Science. Dr. Nosek and his team led an attempt to replicate the findings of 100 social science studies.

The past several years have been bruising ones for the credibility of the social sciences. A star social psychologist was caught fabricating data, leading to more than 50 retracted papers. A top journal published a study supporting the existence of ESP that was widely criticized. The journal Science pulled a political science paper on the effect of gay canvassers on voters' behavior because of concerns about faked data.

Now, a painstaking yearslong effort to reproduce 100 studies published in three leading psychology journals has found that more than half of the findings did not hold up when retested. The analysis was done by research psychologists, many of whom volunteered their time to double-check what they considered important work. Their conclusions, reported Thursday in the

journal Science, have confirmed the worst fears of scientists who have long worried that the field needed a strong correction.

The vetted studies were considered part of the core knowledge by which scientists understand the dynamics of personality, relationships, learning and memory. Therapists and educators rely on such findings to help guide decisions, and the fact that so many of the studies were called into question could sow doubt in the scientific underpinnings of their work.

“I think we knew or suspected that the literature had problems, but to see it so clearly, on such a large scale — it’s unprecedented,” said Jelte Wicherts, an associate professor in the department of methodology and statistics at Tilburg University in the Netherlands.

More than 60 of the studies did not hold up. Among them was one on free will. It found that participants who read a passage arguing that their behavior is predetermined were more likely than those who had not read the passage to cheat on a subsequent test.

Another was on the effect of physical distance on emotional closeness. Volunteers asked to plot two points that were far apart on graph paper later reported weaker emotional attachment to family members, compared with subjects who had graphed points close together.

A third was on mate preference. Attached women were more likely to rate the attractiveness of single men highly when the women were highly fertile, compared with when they were less so. In the reproduced studies, researchers found weaker effects for all three experiments.

The project began in 2011, when a University of Virginia psychologist decided to find out whether suspect science was a widespread problem. He and his team recruited more than 250 researchers, identified the 100 studies published in 2008, and rigorously redid the experiments in close collaboration with the original authors.

The new analysis, called the Reproducibility Project, found no evidence of fraud or that any original study was definitively false. Rather, it concluded that the evidence for most published findings was not nearly as strong as originally claimed.

Dr. John Ioannidis, a director of Stanford University’s Meta-Research Innovation Center, who once estimated that about half of published results across medicine were inflated or wrong, noted the proportion in psychology was even larger than he had thought. He said the problem could be even worse in other fields, including cell biology, economics, neuroscience, clinical medicine, and animal research.

The report appears at a time when the number of retractions of published papers is rising sharply in a wide variety of disciplines. Scientists have pointed to a hypercompetitive culture across science that favors novel, sexy results and provides little incentive for researchers to replicate the findings of others, or for journals to publish studies that fail to find a splashy result.

“We see this is a call to action, both to the research community to do more replication, and to funders and journals to address the dysfunctional incentives,” said Brian Nosek, a psychology professor at the University of Virginia and executive director of the Center for Open Science, the nonprofit data-sharing service that coordinated the project published Thursday, in part with $250,000 from the Laura and John Arnold Foundation. The center has begun an effort to evaluate widely cited results in cancer biology, and experts said that the project could be adapted to check findings in many sciences.

In a conference call with reporters, Marcia McNutt, the editor in chief of Science, said, “I caution that this study should not be regarded as the last word on reproducibility but rather a beginning.” In May, after two graduate students raised questions about the data in a widely reported study on how political canvassing affects opinions of same-sex marriage, Science retracted the paper.

The new analysis focused on studies published in three of psychology’s top journals: Psychological Science, the Journal of Personality and Social Psychology, and the Journal of Experimental Psychology: Learning, Memory, and Cognition.

The act of double-checking another scientist’s work has been divisive. Many senior researchers resent the idea that an outsider, typically a younger scientist, with less expertise, would critique work that often has taken years of study to pull off.

“There’s no doubt replication is important, but it’s often just an attack, a vigilante exercise,” said Norbert Schwarz, a professor of psychology at the University of Southern California.

Dr. Schwarz, who was not involved in any of the 100 studies that were re-examined, said that the replication studies themselves were virtually never evaluated for errors in design or analysis.

Dr. Nosek’s team addressed this complaint in part by requiring the researchers attempting to replicate the findings to collaborate closely with the original authors, asking for guidance on design, methodology and materials. Most of the replications also included more subjects than the original studies, giving them more statistical power.

Strictly on the basis of significance — a statistical measure of how likely it is that a result did not occur by chance — 35 of the studies held up, and 62 did not. (Three were excluded because their significance was not clear.) The overall “effect size,” a measure of the strength of a finding, dropped by about half across all of the studies. Yet very few of the redone studies contradicted the original ones; their results were simply weaker.

“We think of these findings as two data points, not in terms of true or false,” Dr. Nosek said.

The research team also measured whether the prestige of the original research group, rated by measures of expertise and academic affiliation, had any effect on the likelihood that its work stood up. It did not. The only factor that did was the strength of the original effect — that is, the most robust findings tended to remain easily detectable, if not necessarily as strong.

The project’s authors write that despite the painstaking effort to duplicate the original research, there could be differences in the design or context of the reproduced work that account for the different findings. Many of the original authors certainly agree.

In an email, Paola Bressan, a psychologist at the University of Padua and an author of the original mate preference study, identified several such differences — including that her sample of women were mostly Italians, not American psychology students — that she said she had forwarded to the Reproducibility Project. “I show that, with some theory-required adjustments, my original findings were in fact replicated,” she said.

These are the sorts of differences that themselves could be the focus of a separate study, Dr. Nosek said.

Extending the project to other fields will require many adaptations, not least because of the cost of running experiments in medicine and brain science. To check cancer biology results, for

instance, the Center for Open Science will have to spend far more money than was spent on psychology.

Stefano Bertuzzi, the executive director of the American Society for Cell Biology, said that the effort was long overdue, given that biology has some of the same publication biases as psychology. “I call it cartoon biology, where there’s this pressure to publish cleaner, simpler results that don’t tell the entire story, in all its complexity,” Dr. Bertuzzi said.

Scientific American

Massive International Project Raises Questions about the Validity of Psychology Research

When 100 past studies were replicated, only 39 percent yielded the same results

by Roni Jacobson

Investigators across five continents reported that they were able to replicate only about 40 percent of the results from 100 previously published studies in cognitive and social psychology, in a study described today in the influential journal *Science*. The massive collaboration, called the Reproducibility Project: Psychology, could serve as a model for examining reproducibility of research in other fields, and a similar effort to scrutinize studies in cancer biology is already underway.

Central to the scientific method, experiments “must be reproducible,” says Gilbert Chin, a senior editor at *Science*. “That is, someone other than the original experimenter should be able to obtain the same findings by following the same experimental protocol.” The more readily a study can be replicated, the more trustworthy its results. But “there has been growing concern that reproducibility may be lower than expected or desired,” says corresponding author Brian Nosek, a psychology professor at the University of Virginia.

To address the problem, scientists across many disciplines established the Center for Open Science (COS) in Charlottesville, Va. The Reproducibility Project: Psychology, their first research initiative, began recruiting volunteers in 2011. They asked teams of researchers, totaling 270 collaborating authors, to choose from a pool of studies—all reflecting basic science and not requiring specialized samples or equipment—that appeared in 2008 in one of three respected psychology journals: *Psychological Science; Journal of Personality and Social Psychology;* and *Journal of Experimental Psychology: Learning, Memory and Cognition*.

Generally evidence was weaker on replication. The stronger the evidence was to begin with, however, including a larger effect size, the more likely the results were reproduced.

Although the outcome was “somewhat disappointing,” Chin said during a teleconference to discuss the findings, he stressed that it did not necessarily speak to the validity of the theories tested or even the conclusions drawn. The scientific process involves “a continual questioning and assessment of theories and of experiments.” Even nonreproducible experiments contribute to our understanding of science by helping to rule out alternative explanations. Rather, the study suggests “we should be less confident about many of the original experimental results that were provided as empirical evidence in support of those theories.”

Speaking at the same teleconference, Alan Kraut, executive director of the Association for Psychological Science and a COS board member, made a similar point: Inevitable variations in study participants, timing, location, the skills of the research team and many other factors will always influence outcomes. “The only finding that will replicate 100 percent of the time,” Kraut noted, “is one that is likely to be trite and boring.”

The teams received set protocols and analysis plans and consulted with original study authors in order to match their study design as closely as possible. After the experiments concluded, the project coordinators aggregated the data and independently reviewed the analyses.

Study authors gaged replication success using five criteria: statistical significance and p-values—an assessment of the probability of an event within a certain predetermined likelihood (generally 95 percent, or a p-value of 0.05); the effect size, which indicates the strength of the phenomenon tested; the subjective judgment of the replication team; and a meta-analysis of the effect sizes of all 100 experiments. They also factored in various other characteristics—among them sample size, so-called “effect surprisingness” and expertise of the original team—that could potentially affect the results.

In the final analysis they found that whereas 97 percent of the original studies reported statistically significant results (obtaining a p-value of 0.05 or less) only 36 percent of replications did. A weakness of using p-values, however, is that it treats 0.05 as a “bright line” between significant and nonsignificant results. To address this, the researchers also examined effect size. The replicated experiments fared slightly better when measured this way. In total, 47 percent of the replications showed an effect that matched the original results with 95 percent confidence, although generally the strength of the effect had decreased. Subjectively, 39 percent of the research teams deemed their replication a success.

Of interest, the authors found that some types of studies were more likely to be replicated than others. Only about 25 percent of the 57 social psychology studies included in the project were successfully replicated whereas 50 percent of the 43 cognitive psychology ones were. The social psychology studies also had weaker effect sizes. In addition, the simpler the design of the original experiment, the more reliable its results. The researchers also found that “surprising” effects were less reproducible.

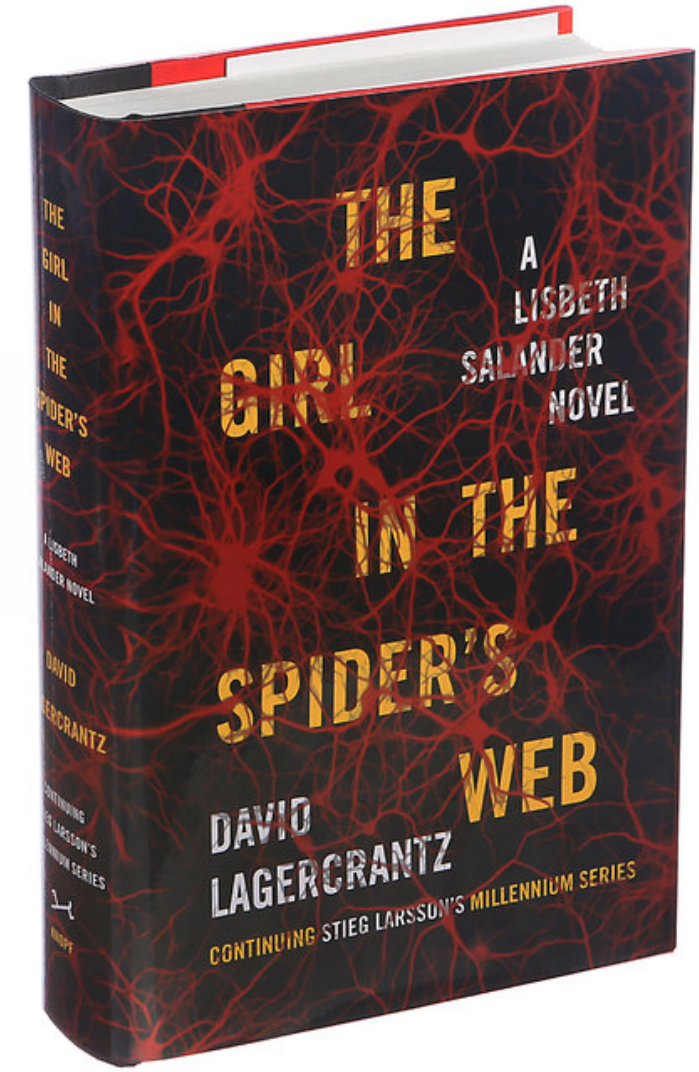
In this study the authors excluded research that called for advanced neuroimaging, maybe also excluding the very sorts of precision experiments that could have replicated more easily. But the authors note that the problem of reproducibility persists across all fields of science, perhaps in part due to publication bias. “Publication is the currency of science,” Nosek says. “To succeed, my collaborators and I need to publish regularly and in the most prestigious journals possible.” But academic journals routinely prioritize “novel, positive and tidy results,” he adds. Studies that fail to find a significant result rarely see the light of day. In addition, replications of previously published experiments—which are vitally important in moving science forward—are much less likely to survive peer review.

To change that, Marcia McNutt, editor in chief of *Science,* points out that her journal and others have recently published guidelines encouraging greater transparency and openness in their selection and review process. She adds that “authors and journal editors should be wary of publishing marginally significant results, as those are the ones that are less likely to reproduce.” If they lose sight of that fact, Nosek concludes, “then the published literature may become more beautiful than the reality.”

NY Times

Review: ‘The Girl in the Spider’s Web’ Brings Back Stieg Larsson’s Detective Duo

by Michiko Kakutani



Fans of Stieg Larsson’s captivating odd couple of modern detective fiction — the genius punk hacker Lisbeth Salander and her sometime partner, the crusading investigative journalist Mikael Blomkvist — will not be disappointed by the latest installment of their adventures, written not by their creator, Stieg Larsson (who died of a heart attack at the age of 50 in 2004), but by a Swedish journalist and author named David Lagercrantz. Though there are plenty of lumps in the novel along the way, Salander and Blomkvist have survived the authorship transition intact and are just as compelling as ever.

“The Girl in the Spider’s Web” finds the pair drawn into the case of the enigmatic computer scientist Frans Balder: a prominent expert in artificial intelligence who’s become ensnared in a global intrigue involving the Swedish Security Police (Sapo), the Russian mob, Silicon Valley industrial spies and United States national security interests.

Mr. Lagercrantz's efforts to connect unsavory doings in Sweden to machinations within America's National Security Agency are strained and fuzzy — a bald attempt to capitalize on Edward J. Snowden's revelations about the agency and the debate over its surveillance methods. But then, readers weren't smitten by "The Girl With the Dragon Tattoo" because of its plotting (which relied heavily on straight-to-video serial-killer-movie clichés), its plausibility or Larsson's anti-authoritarian politics. They were smitten with that novel and its two sequels — "The Girl Who Played With Fire" and "The Girl Who Kicked the Hornet's Nest" — because of the fierce charm of Salander and Blomkvist, and their unlikely chemistry. And because Larsson was so adroit at conjuring a moody, noirish Sweden that turned the stereotype of a clean, bright Scandinavia (where people drive Volvos and buy Ikea furniture) back into a land of long winters, haunted by the ghosts of Strindberg and Bergman.

In "Spider's Web," Mr. Lagercrantz demonstrates an instinctive feel for the world Larsson created and for his two unconventional gumshoes: Blomkvist, the dedicated, mensch-y reporter (and unlikely middle-aged girl-magnet); and Salander, the fierce, damaged girl who looks like an angry, punked-out version of Audrey Hepburn (if you can imagine Holly Golightly rocking tattoos and piercings, instead of a tiara) and who fights with the kick-ass video game skills of Lara Croft.

Mr. Lagercrantz captures the weariness, even vulnerability, that lurks beneath these two characters' toughness, and he understands that each is motivated by a craving for justice — Blomkvist out of crusading idealism, Salander out of a determination to avenge the abuse she suffered as a child at the hands of her sadistic father, Zala, a former Soviet operative who defected and became the head of a vast criminal enterprise.

Like the earlier novels, "Spider's Web" deals out more clues to Salander's past, which shed new light on how this onetime victim became a fierce, take-no-prisoners survivor, and managed to reinvent herself as a kind of superhero avenger. In fact, her mysterious, long-absent twin, Camilla, emerges in some overly melodramatic scenes here as her archenemy, a beauteous man-killer who seems more like a cartoony Bond villainess than a real human being.

A far more persuasive and compelling character in this novel is Balder's 8-year-old autistic son, August: a savant, extraordinarily gifted as an artist and a mathematician, but severely traumatized by the abuse inflicted on him by his mother's violent lover, and almost incapable of speech. August, who witnessed his father's murder and who plays a crucial role in searching for the killer, will remind some readers of the autistic narrator of Mark Haddon's affecting 2003 novel, "The Curious Incident of the Dog in the Night-Time" (later adapted into the Tony Award-winning play of the same title), and Mr. Lagercrantz makes the boy a deeply touching character. His pain and exceptional gifts make him a kind of youthful alter ego to Salander, who will use all her skills, all her own genius — at hacking, at intelligence gathering, at survival — to protect him when his father's enemies come to hunt him down.

"Spider's Web" is less bloody, less horror movie lurid than its predecessors. In other respects, Mr. Lagercrantz seems to have set about — quite nimbly, for the most part — channeling Larsson's narrative style, mixing genre clichés with fresh, reportorial details, and plot twists reminiscent of sequences from Larsson's novels with energetically researched descriptions of the wild, wild West that is the dark side of the Internet. Presumably, the N.S.A. has been dragged into the story partly as a means of paying homage to Larsson's anti-authoritarianism and his dark view of state power (developed most fully in "Hornet's Nest," which grappled with political corruption in Sweden and the malfeasance of Sapo).

And while Mr. Lagercrantz never makes the N.S.A.'s involvement in the case Salander and Blomkvist are investigating remotely convincing, he writes with such assurance and velocity in the later portions of the book that he powers through these more dubious passages.

Instead of pausing to parse the implausibility of some of the interlinking conspiracies in "Spider's Web," the reader quickly turns pages to see how Salander and Blomkvist will put together the puzzle pieces of the Balder case (with a big assist from August). We wonder how the decisions they make on the fly — on the run or under fire — shed new light on who they are at this point in their lives. And whether their individual missions — his attempts to untangle the story of Balder; and her efforts to track down the criminal enterprises of her hated father — will put them on a collision course or make them partners, romantic or otherwise, once again.

THE GIRL IN THE SPIDER'S WEB

A Lisbeth Salander Novel, Continuing Stieg Larsson's Millennium Series

By David Lagercrantz

Translated by George Goulding

400 pages. Alfred A. Knopf. $27.95.

Washington Post

'The Girl in the Spider's Web' review: Lisbeth Salander hacks on

by Patrick Anderson
Resize Text
Print Article

One of the great sagas of modern publishing began in Sweden in 2004 when a left-wing journalist delivered a ridiculously long manuscript to his publisher. The aspiring novelist, who died of a heart attack a few months later at the age of 50, was of course Stieg Larsson. His editor recognized the value of what he had written and also that it should be published as three related novels. She later said that when the first of the novels, "The Girl With the Dragon Tattoo," appeared, she would have been happy if it had sold 10,000 copies. Instead, at last report, the three novels in Larsson's Millennium trilogy have sold in excess of 80 million copies worldwide. Their success was richly deserved. The novels offer a strikingly intelligent, gripping, angry look at political and corporate corruption in Sweden and, by implication, throughout the Western world.

Like countless readers, I would welcome a fourth novel in the series that equaled the high standard set by Larsson, but "The Girl in the Spider's Web" is not that novel. Authorized by Larsson's father and brother, who were his heirs, and written by Swedish writer David Lagercrantz, the new book brings back Lisbeth Salander and Mikael Blomkvist, the heroes and occasional lovers of the trilogy. It's fitfully interesting, but more often the story is disjointed and annoying.

“The Girl With the Dragon Tattoo” started out as a conventional mystery about a missing girl. More than anything else, “The Girl in the Spider’s Web” is a novel about hacking. We learned in “Dragon Tattoo” that the pierced, punkish Salander was a formidable hacker, but here, in a world of warring hackers, she is the unquestioned genius. She guides Hacker Republic, a group of good-guy hackers, and ultimately manages to hack the supposedly invulnerable National Security Agency, whereupon she triumphantly tells its leaders, “Those who spy on the people end up being spied on by the people.” Many other hackers fill the story; some are criminal, others are corporate or governmental. Unfortunately, their deeds are too often presented in incomprehensible tech-talk.

At the end of Larsson’s trilogy, Salander stole a fortune and vanished, and she isn’t much seen in the first half of this book. Blomkvist thinks of her often (“He thought about a dragon tattoo on a skinny, pale back. … Where had she disappeared to?”), but we learn that he has fallen on hard times. His beloved magazine, Millennium, has been bought by a corporation that wants to force him out. Younger journalists have come to scorn him: “They pointed out that Blomkvist was not on Twitter or Facebook and should rather be seen as a relic of a bygone age.” (Courage, Mikael, you are not alone.) Desperate for a big story, he stumbles onto one about hacking and high-level corruption.

We meet Frans Balder, a computer genius who has recently reclaimed his 8-year-old autistic son from his ex-wife and her thuggish lover. The boy does not speak and barely functions, largely because his mother and her lover bought drugs with the money that should have gone for his treatment. Moreover, the lover beats him.

The boy improves under his father’s care, but trouble strikes. The father has, by his brilliant hacking, discovered that one corporation, aided by corrupt officials at NSA, has stolen priceless secrets from another corporation. Hired killers are sent to silence the father. The boy, who witnesses the attack but survives, proves to be a savant, a near-genius at both drawing and mathematics. Because he may be able to draw an accurate picture of his father’s killer, the hit men return. But by then, the fearless Salander is there to protect him, in scenes that provide much of the novel’s drama.

I recall the Larsson books unfolding gracefully. Lagercrantz’s narrative is fragmentary and confusing. It’s almost impossible to keep track of all the hackers, scientists and killers who emerge briefly, vanish, then turn up again after you’ve forgotten them. There are absurdly complicated moments when characters discuss such things as singularity theory, black holes, prime-number factorization and self-teaching algorithms. Several of the characters are certified geniuses but, sad to say, most readers are not.

Lagercrantz introduces one notable new character — Salander’s twin, Camilla. If Lisbeth is the most brilliant and brave of women, Camilla is the most beautiful and evil. She accosts Blomkvist on the street, seeking to lure him to his death, but this man knows the ways of women and “caught a strange twitch in her eyes, a sudden icy chill,” whereupon he escapes. Camilla, the power-hungry leader of a group of criminal hackers, is determined to kill the sister she has hated since childhood. Clearly she will keep trying as the series continues.

Larsson left no will and never married Eva Gabrielsson, with whom he had lived for many years. The huge royalties from his three books, therefore, have gone to his father and brother, with whom he reportedly had not been close. It has also been reported that they approved the publication of this novel over Gabrielsson’s objections. “The Girl in the Spider’s Web” has a huge first printing of 500,000 in the United States alone and will probably adorn the bestseller

lists for months and make millions for everyone involved. Don't be fooled. Gabrielsson was right; Larsson deserves better than this.

Anderson regularly reviews mysteries and thrillers for Book World.

Previous reviews of Stieg Larsson's novels:

'The Girl With the Dragon Tattoo'

'The Girl Who Played With Fire'

'The Girl Who Kicked the Hornet's Nest'

"THERE'S BEEN ANOTHER SENSELESS SHOOTING. STAY WITH US AS WE SPEND HOURS AND HOURS AND HOURS DISCUSSING THE KILLER AND HIS QUEST FOR NOTORIETY."


CHARLIE HEBDO
IF ONLY...
NEWS
3 AMERICANS STOP FRENCH MASSACRE


OMG SUSAN, CAN YOU IMAGINE HOW LUXURIOUS
PLANES IN 50 YEARS WILL BE?