

use. The funders will cap the fees paid for publication in OA journals at a yet-to-be-determined level. After a transition period, publication in hybrid journals—of which Springer Nature operates more than 1700 and Elsevier more than 1850—will end because such journals have not proved to be the transition model that many were hoping for, Schiltz says. In fact, he adds, “We now pay more” because the author publication fees come on top of the subscription price. (The Springer Nature statement says hybrid journals do “support the transition towards full open access”; under special agreements, they allow 70% of authors in four European countries to make their research available immediately.)

The plan is ambivalent about “green OA,” in which researchers or institutions post a freely accessible copy of their paper in an in-

when evaluating a scientist’s performance.

Schiltz rejects the claim that the plan infringes on academic freedom. Authors still have plenty of journals to choose from, he says, and funders are entitled to say how their money is spent. “The greater good of a well-functioning science system is more important than the right of individual researchers to decide where to submit their papers,” he says.

The funders say they will monitor researchers’ publication practices and sanction non-compliance. For example, Gielen says NWO will check a certain percentage of the papers it has funded and could punish researchers who have not followed the new rules by asking for its money back or temporarily banning them from applying for funding.

Many of Science Europe’s 18 other funders are likely to come on board in the weeks

## PSYCHOLOGY

## ‘Rapid onset’ of transgender identity ignites storm

Critics charge a study is biased, but others say politics is inhibiting science

By Meredith Wadman

A study describing “rapid onset gender dysphoria” (ROGD) in teens and young adults—a sudden unease with the gender they were assigned at birth—has infuriated transgender activists while sparking a debate about academic freedom. Critics of the paper, published last month in *PLOS ONE* by physician-scientist Lisa Littman of Brown University, call it a flawed study that reflects an antitransgender agenda, in part because it suggests some cases may be the result of “social contagion.” Brown and the journal have both distanced themselves from the paper, drawing charges that they surrendered to political pressure.

The study remains freely available, but last week, *PLOS ONE* announced it is conducting a postpublication investigation of its methodology and analysis. “This is not about suppressing academic freedom or scientific research. This is about the scientific content itself—whether there is anything that needs to be looked into or corrected,” *PLOS ONE* Editor-in-Chief Joerg Heber in San Francisco, California, told *Science* in an interview.

Also last week, Brown officials removed the university’s press release highlighting the paper from its website. Bess Marcus, dean of Brown’s School of Public Health, wrote in an open letter that the university acted “in light of questions raised about research design and data collection related to the study.” She added that people in the Brown community have raised concerns that the study’s conclusions “could be used to discredit efforts to support transgender youth and invalidate the perspectives of members of the transgender community.”

Brown’s move prompted Jeffrey Flier, a former dean of Harvard Medical School in Boston and a professor of medicine there,



Robert-Jan Smits, the European Commission’s special envoy for open access, was the “catalyst” behind Plan S.

stitutional repository, instead of publishing in an OA journal; it only says the importance of such repositories is “acknowledged.” That’s an “elementary mistake,” Suber says, because green OA has its own advantages. Also called self-archiving, it is cheap and easy to scale up, and by allowing researchers to make their work freely available while publishing in a “conventional, venerable” journal, green OA helps young scientists who need the cachet of publishing in top journals, Suber says.

The funders behind the new plan, however, explicitly aim to reduce the allure of marquee journals. In a preamble to Plan S, they pledge to help “fundamentally revise the incentive and reward system of science,” for instance by following the 2013 San Francisco Declaration on Research Assessment, which advocates abandoning simple metrics such as the journal impact factor

and months ahead, Schiltz predicts. “We felt this was now strong enough to go public,” he says, in part because the 11 current participants jointly represent more than half of the funding stream that Science Europe’s members control.

Plan S comes at a time when academic institutions in several European countries, seeking to make more papers OA, are in tough negotiations with academic publishers. Elsevier recently cut off access to its journals in Germany and Sweden after consortia of labs and universities in those countries refused to back down. Plan S will further increase the pressure, Schimmer says. “There has been enough nice language and waiting and hoping and saying please,” he says. “Research communities just aren’t willing to tolerate procrastination anymore.” ■

to say in a tweet: “This is a sad day for @BrownUniversity, and an indictment of the integrity of their academic and administrative leadership.” In an interview, Flier called elements of Marcus’s statement “anti-intellectual” and “completely antithetical to academic freedom,” and said he found it “horrifying” that Brown failed to defend Littman. A petition urging Brown and *PLOS ONE* “to resist ideologically-based attempts to squelch controversial research evidence” had garnered nearly 3900 signatures by early this week.

The controversy comes after several years of rapid growth in the number of adolescents being referred to clinics specializing in gender dysphoria in North America and Europe. For instance, a paper published in April in the *Archives of Sexual Behavior* analyzed 2009–16 data from a U.K. specialist service that is the largest in the world. The study described recent, dramatic growth in both total adolescent referrals and the proportion of those patients who were designated female at birth (see graph, right). In the past, the majority of patients at such clinics had been designated male at birth. The authors wrote that their findings “reflect a general trend of inversion in sex ratios” in adolescents seeking treatment in several developed countries. They speculated that causes might include that “coming out ... may be easier for birth-assigned females than it is for birth-assigned males” as awareness of transgender identity grows. But, “It is not possible to say with any confidence why” the sex inversion is happening, says Polly Carmichael, the paper’s senior author and director of the Gender Identity Development Service at The Tavistock and Portman NHS Foundation Trust in London.

Michael Bailey, an academic psychologist who studies sexual orientation and gender dysphoria at Northwestern University in Evanston, Illinois, says his colleagues who treat gender dysphoria “all tell me that their primary group these days are adolescent females who were not known to be gender dysphoric [in childhood]. ... This kind of case virtually never happened until recently—even a decade ago you didn’t see them. I don’t know what else to call this but an epidemic.”

In 2016, spurred by accounts of sudden transitions among young people, Littman surveyed parents she recruited from three websites where she had read such descriptions by parents: 4thWaveNow, Transgender Trend, and YouthTransCritical Professionals.

The first two are gathering places for parents concerned by their children’s exploration of a transgender identity. (The third website is closed to nonmembers.)

According to 256 parents who responded to the 90-question survey, none of their children—83% of whom were designated female at birth—had symptoms that matched the professionally defined diagnosis of gender dysphoria during childhood. The finding suggests “that not all [young people] presenting at these vulnerable ages are correct in their self-assessment of the cause of their symptoms,” Littman wrote. She suggested some young people may be seeking gender transition to escape other emotional difficulties.

But transgender activists furiously dispute the existence of ROGD, and Littman’s description of it, which is the first in the lit-

a similar time frame. This, Littman writes, was more than 70 times the expected prevalence of transgender identity in young adults. She hypothesizes that “social contagion” may be a key driver of some cases of the purportedly rapid onset dysphoria. To trans activists and some clinicians, such a suggestion denies the inner experience of transgender youths and risks stigmatizing and further isolating them from their peers and supportive resources.

Critics also assailed Littman for failing to recruit participants from other websites supportive of transgender youth and for not interviewing such youths themselves. Littman defended her choice of sites, writing in an email to *Science* that in order to find cases of ROGD, she targeted the only three sites where she had seen parents discussing something like it.

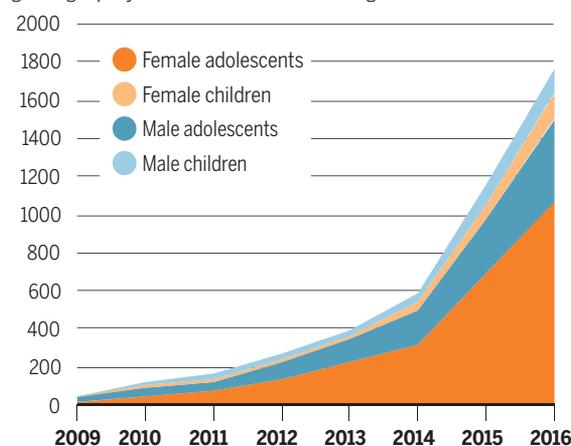
“I would have rejected this manuscript outright for its methodological flaws and also its bias,” says Diane Ehrensaft, director of mental health at the Child and Adolescent Gender Center Clinic at the University of California, San Francisco’s Benioff Children’s Hospital; she treats transgender young people as a clinical psychologist and has reviewed scientific papers for journals. The paper’s implication that gender exploration “is simply a fad whipped up by peer influence” should not be taken as authentic, she argues. “It negates the experience of many transgender youth.”

But Ray Blanchard, a professor of psychiatry at the University of Toronto in Canada who worked for 15 years in a gender identity clinic that screened candidates for sex reassignment surgery, says the paper points to a clear phenomenon. “Many clinicians in North America and elsewhere have been seeing such patients,” Blanchard, who worked with adults, wrote in an email, “and it has been speculated that this subgroup is one reason for the predominance of adolescent females now being seen in North America and elsewhere.” Blanchard added, “No one can deny the clinical reality” of a new subgroup of adolescents, mainly female, who experience gender dysphoria after showing no behavioral signs of it during childhood.

In the study, Littman acknowledged its limitations. “Like all first descriptive studies, additional studies will be needed to replicate the findings,” she wrote. She told *Science* that in upcoming research she plans to recruit parent-teen pairs in cases where the teenager experienced ROGD that later resolved. ■

## Transgender identities on the rise

The number of young people referred to a U.K. transgender service is growing rapidly. Most adolescents were designated female at birth.



erature. They argue that what may seem a “rapid onset” to parents is likely the result of a lengthy internal process in children. “What’s ‘rapid’ about ROGD is parents’ sudden awareness and assessment of their child’s gender dysphoria,” the Oakland, California-based transgender writer and former developmental biologist Julia Serano wrote in a critical essay last month. She argues that Littman’s paper provides no evidence for the existence of ROGD. She added in an interview that others have already embraced ROGD for ideological reasons—“to do an end run around existing trans health practices that advocate for supporting and affirming trans kids.”

The most explosive of Littman’s findings may be that among the young people reported on, more than one-third had friendship groups in which 50% or more of the youths began to identify as transgender in

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