2 November, 2020, newsletter theme: Pandemo-ween #2!

Dear Grey House team members and loyal quaran-teammates!

It's now 246 days into our gruesome team-building adventure horrorshow.

This week's theme: Pandem-oween #2! At the end of this newsletter, you will find some fun spooky photos of everyone's Halloween costumes! Thanks to all who sent them!

Haunted-House Psychology Researchers Investigate the Mystery of Recreational Fear.

https://www.psychologicalscience.org/news/releases/2020-oct-playing-with-fear.html

AS ALWAYS, THE HAPPY NEWS FIRST:

Dolly Parton gave Vanderbilt University a donation for COVID-19 research. HONEST, I am not making this stuff up.

https://twitter.com/DollyParton/status/1245386916649984001

Glastonbury Festival UK is on for June 2021! Wanna make a wager?

Clara's first pony ride. NOTE, this is how a lifelong addiction begins.

NEXT, THE UNHAPPY NEWS:

For those who can't help worrying about the arctic ice, on top of everything else:

Arctic death-spiral update with Brenda the Civil Disobedience Penguin

https://urldefense.com/v3/__https://www.theguardian.com/commentisfree/2020/oct/26/its-your-regular-arctic-death-spiral-update-with-brenda-the-civil-disobedience-penguin?CMP=Share_iOSApp_Other__;!!OToaGQ!-ZZ8aQsDz2KUsvhD_rXHS1b3zrOtpA5tWEfPgHPpskkA-2TwAicPFeiRbG-y8-M$

Poor New Zealand, what next? 'No predators, plenty to eat': New Zealand struggles with plague of peacocks!

A bird renowned around the world for its beauty has showed its ugly side by causing havoc on farms in New Zealand; eating crops, evading control efforts and driving landowners to distraction.

https://www.theguardian.com/world/2020/oct/31/no-predators-plenty-to-eat-new-zealand-struggles-with-plague-of-peacocks

Our poor British team members are back trapped in their flats.

GOV.UK

Update on GOV.UK.

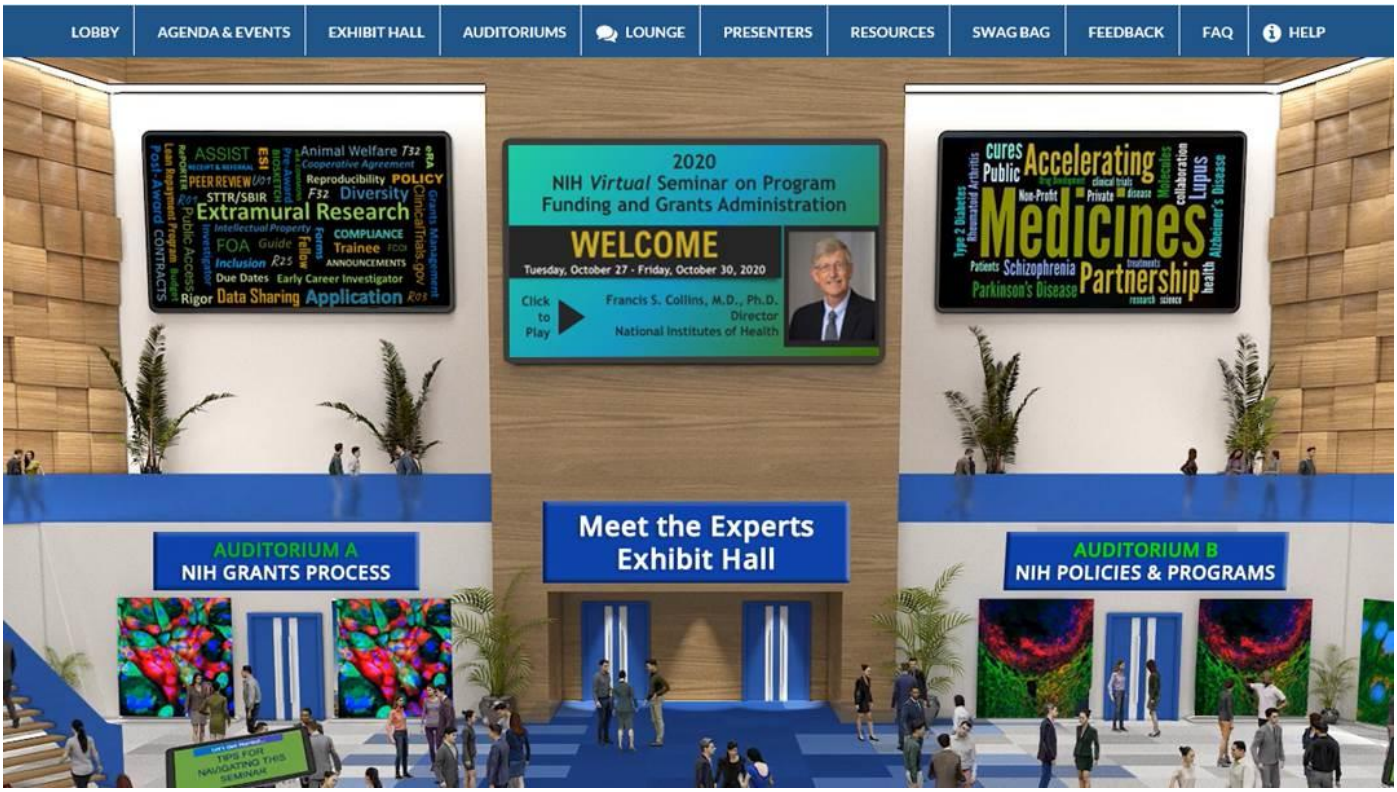
New National Restrictions from 5 November

Page summary
Information on the new national restrictions, including what they mean for working from home and business closures, why they are being introduced and the financial support available.

Time updated
8:18pm, 31 October 2020

THIS WEEK's Science visualizations:

Susan took an on-line course at NIH this week, the screen view is a mating of a video game with an academic conference. I can't think of any game I'd rather play less. Poor Susan.

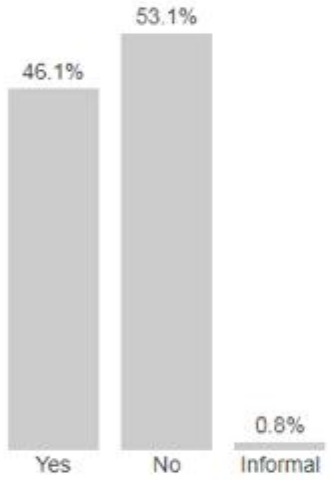


Science viz #2, from Dave Ireland in Dunedin:

New Zealanders passed the referendum for euthanasia, but not for cannabis.

Cannabis Referendum

The referendum asked the question: "Do you support the proposed Cannabis Legalisation and Control Bill?"



VOTES	NUMBER OF VOTES RECEIVED	PERCENTAGE OF TOTAL VOTES
Yes	1,114,485	46.1%
No	1,281,818	53.1%
Informal votes*	19,244	0.8%
TOTAL VOTES	2,415,547	100%

All Duke faculty, students, trainees, employees, postdocs, and their families:
Duke Telephone Emotional Support & Well-Being Line
919-681-1631 8a- 11p (M- F) 8a - 8p (S S).
FREE telephone service with clinicians in the Department of Psychiatry and Behavioral Sciences providing **immediate confidential support** and **linkage** to other clinical services including:

- Duke Psychiatry urgent mental health services Telephone, video visits, limited in-person urgent evaluations. Now 8-5 M-F. Evenings, weekends available beginning 4/13.
- Duke Personal Assistance Services (PAS)
- Appointments with psychologists, psychiatrists, social workers at Duke and in the community.

LAST CHANCE: Don't Forget to check the American presidential race poll being updated daily by the Economist.

https://projects.economist.com/us-2020-forecast/president

From Kyle, for the poll addicts among us! Fun polls for the newsletter. They come from the bottom of this article on 538 (https://fivethirtyeight.com/features/americans-say-theyre-fired-up-to-vote-especially-democrats/) in the "Other polling bites" section.

- BOO! Twenty percent of American adults say that ghosts definitely exist, according to a YouGov poll conducted last week. About a quarter say they probably exist, 39 percent say they probably or definitely do not exist, and 16 percent said they don't know.
- Americans are split on whether children should be allowed to trick-or-treat on Halloween this year and whether they will hand out candy, given the coronavirus pandemic. According to a YouGov poll, 30 percent of Americans say they plan to hand out treats to trick-or-treaters, while 26 percent say they usually do but won't this year. Another 35 percent, who I can only surmise are either unable to give out treats or just extremely grumpy, said they never give out treats.
- "For those of you fed up with the horse race, a poll from Echelon Insights reimagined what the 2020 election might look like if the U.S. were a multi-party democracy. Respondents were read descriptions of five hypothetical political parties, without the name of the party or its leader. And among these hypothetical parties, the Labor and Conservative Parties collectively led with 26 and 25 percent of the vote respectively, followed by the Nationalist Party, which got 16 percent, and then Acela and Green Parties, which got 11 percent each. The hypothetical Green Party, which the pollster said would advocate for socialist policies and would be "the political home of the Squad," got support from 45 percent of Gen Z voters (those born after 1997)"

By APA President Lisa Feldman Barrett and Daniel J. Barrett

WHAT DO GHOSTS FEEL? It is widely known and accepted that people are afraid of ghosts. But what do ghosts themselves feel? Are they sad that they died? Do they enjoy scaring us? The field of ghost emotions (also known as "adfectuspirituality" or "psychological heebiejeebism") is arguably one of the fastest growing disciplines in psychology today. Emotion laboratories worldwide, most notably the newly founded Center for Research on Emotion, Ectoplasm, and Psychological Science (C. R. E. E. P. S.) at the Università del Purgatorio in Milan, Italy, are turning their attention to the incorporeal sciences. Moreover, ghost-emotion research has gained much credibility within funding agencies, as it is the only field in psychology in which luminaries like Jean Piaget and Sigmund Freud remain available for consultation. (1)

The science of ghost emotions dates back to Charles Darwin, who proposed that certain emotions were passed down from the living to the dead through evolution — indeed, his masterworks *The Expression of the Emotions in Man and Animus* and *On the Origin of Specters* are undying classics in the field. William James, who had an interest in spiritualism, famously wrote that "ghosts do not cause us to feel fear; rather, it is the experience of fear that summons ghosts to us" (later called the James-Doppelgäng Theory of Emotion). (2)

In the modern day, there are several schools of thought on ghost emotions. The most well-known is the theory of basic ghost emotions, which posits three criteria: The emotion must exist from the moment of death, have a unique and spooky expression, and be found in the ghosts of other

animals. (3) The most well-studied ghost emotion — the desire to scare (known in the literature as "Boo") — is claimed to meet these criteria. In particular, the wide-eyed, open-mouthed facial expression associated with the experience of Boo (Fig. 1) is said to be universal among ghosts, at least among those with faces. (4) A search for the hypothetical "Boo circuit" is ongoing.

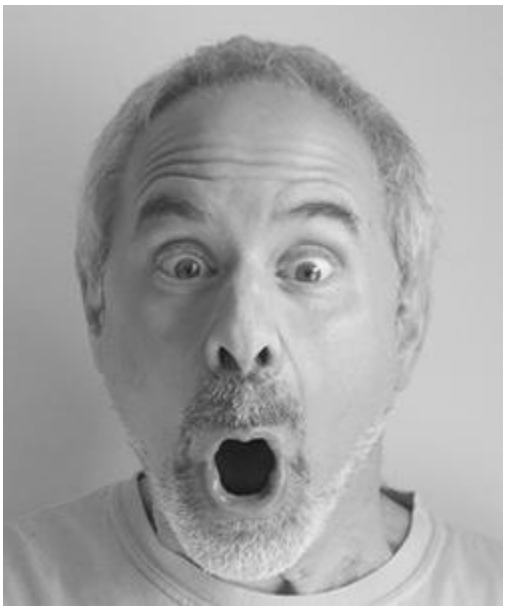


Figure 1: A facial configuration for Boo (simulated).

A second school of thought comes from evolutionary psychology, wherein the primary question is one of ancestry. Were the emotions of ghosts designed for our hominin ancestors who perished on the African savannah? Or do they extend further back, to our primate ancestors who plummeted out of trees? Some proponents trace the roots of ghost-emotion circuitry all the way back to squashed insects. (5) Of particular note is evolutionary psychology's fascination with ghosts who came into existence through decapitation: For some reason, these spirits often rise together and form large, effective social groups. The mystery of how and why these communities of the dead can thrive, despite the citizens' total lack of eyes, noses, mouths, and ears, has been termed the struggle of "getting along versus getting a head."

A third school of thought is rooted in psychological construction (sometimes mislabeled as "other-dimensional" approaches). The ghostly mind is said to contain basic ingredients that combine and interact in complex ways to produce supernatural phenomena, including emotions. Identifying those ingredients is an area of active research, but current hypotheses include light, soul, and swamp gas. In a construction mindset, an emotion such as "Boo" is not a uniform essence (e.g., a "supernatural kind") but a broad category with great variety (Fig. 2).

Figure 2: Some of the many facial configurations for Boo.

Regardless of which theory one subscribes to, most scientists agree that ghost emotions can be usefully mapped onto a one-dimensional circumplex along an axis ranging from "Friendly" to "Scary." (6)

Haunting Challenges

Scientists still know frighteningly little about the emotions of ghosts. Even trivial questions such as "Do ghosts perceive fear?" are at an embarrassingly early stage of inquiry.

The challenges of studying ghost emotions are well-known. First, despite the fact that more humans have died than walk the earth today, ghosts are incredibly difficult to find and recruit as subjects. Even when scientists recruit heavily in ghost-friendly areas (e.g., abandoned warehouses, funeral homes, or the annual convention of the Helmetless Motorcycle Riders Association), many spirits are reluctant to leave the spot where they perished, let alone travel to an academic lab. Those ghosts who are genuinely interested in volunteering quickly become frustrated by the advertising flyers that university researchers post on campus bulletin boards because their ghostly fingers pass through the little tear-off tabs at the bottom of the sheet. The few spirits (8.2%) who finally do show up for duty often go unnoticed. Some labs have effected workarounds for these challenges. One popular recruiting strategy is to seat the lab at a round table by candlelight, hold hands, and spell out emotion words on a Ouija board, a practice known as affective séance. A more ambitious strategy is to manufacture one's

own ghostly subjects as needed (e.g., converting an underperforming research assistant or two), but this creative approach rarely receives approval from institutional review boards (IRBs).

Second, ghosts who do reach the lab have unique needs. They cannot perform experimental tasks unless all lighting is extinguished, leading to inaccurate readings, increased accidents, and higher insurance premiums. Additionally, during trials, all lab personnel must maintain an unwavering belief in the supernatural lest their subjects vanish in the presence of unbelievers — a requirement that wreaks havoc with experimenter objectivity. Moreover, 63% of research assistants flee uncontrollably during subject intake and debriefings and must be restrained in order to attend to their duties (again meeting skepticism from IRBs). (7)

Third, standard laboratory techniques do not work well on ghosts. Most experiments that rely on self-report will fail because the typical ghost subject, in response to any question, will recount a lengthy story about how it died. (8) Likewise, much lab equipment is useless — and not only because the ghost's body passes through it. fMRI, for example, is effectively unusable on denizens of the spirit world. (A short-lived fMRI study of headless horsemen is among the most infamous examples.) (9) One also must convince ghost subjects to set aside their heavy, clanking chains in order to be scanned safely; and the strong magnetic field causes ectoplasm to dissipate instantly.

Spectral Studies

Nevertheless, some experimental paradigms have shown promise. In a typical experiment, a ghost subject is presented with various evocative stimuli (e.g., a photograph of its original living body or of the face of its murderer) while it sits comfortably above a chair. Studies show that the ghost has a fast, instinctive urge to scare, followed about 150 ms later by a more deliberate action such as moaning loudly or fluttering the curtains. (10)

Perhaps the most famous experiment investigated whether ghosts can experience fear. Researchers recruited 28 ghost subjects born between 576 B. C. E. and 1961 C. E., with ages at death ranging from 11 to 96 years (M = 37, SD = 20.1). Five ghosts were headless; six, skeletal; nine, completely formless; two, on horseback; and one, a poltergeist. Each subject was placed into a cage, where it received electric shocks while being shown a still photo from *Ghostbusters*; later, the ghosts were shown the photo without the shocks. During each trial, scientists measured the ghosts' ectoplasmic conductance, a sophisticated measure of supernatural current. In all cases, conductance remained steady at zero, with or without the shock. This suggested not only that ghosts cannot experience or learn fear, but also that they are, in fact, dead. (11)

Other studies have focused on whether ghosts can perceive fear in humans. In one study, 16 corporeal ghosts (five male; seven female; four indeterminate) were given 128 photographs of stereotypical human facial poses and asked to sort them by category. The results were remarkably consistent across all subjects. For fear-related poses, the subject laid out each photo separately, creating a distinct category for that individual pose. All remaining photos (e.g., happiness, sadness, anger, disgust, schadenfreude, etc.) were heaped into a single pile. The results suggest that ghosts exhibit unprecedentedly high emotional granularity regarding poses of fear and extremely low granularity for all other poses. (12) In a follow-up study, ghosts carried

out similar categorizations at distances of up to 750 meters (13), and a related study of vocalizations suggested that ghosts exhibit similar granularity for human screams versus other vocal sounds. (14) It is unclear how and why this fine-grained categorization of fear takes hold after death, at least for those dead who become ghosts (0.019%); for all others, emotional granularity trends toward zero.

The field of psychology is fortunate to have brave scientists who engage in this otherworldly experimentation, because this work is not without risk. In 2015 alone, four prominent labs suffered tragic accidents or other unexplained phenomena in pursuit of shadowy truths. Two graduate students' hair turned permanently white; one postdoctoral fellow was damned; and an assistant professor's tenure clock mysteriously was set back 200 years. We expect the rate of such incidents to decline as principal investigators become accustomed to allocating grant money for garlic and emergency lighting.

Ethereal Outlook

There still are many mysteries remaining in ghost-emotionality research. Do apparitions all over the world experience the same emotions, or is there multicultural diversity? How can we best perform facial action coding on faceless shades? Do dismembered ghosts suffer from phantom body syndrome? These and other critical questions urgently need thorough investigation as well as funding.

Some critics insist that ghosts are too challenging to work with and argue that as a field we should study vampires instead. Indeed, vampires are far more eager to enter the lab and be close to humans, and early findings suggest that vampires have an "inner bat" that houses ancient emotion circuitry. (15)

Nevertheless, more is learned about ghost emotions every year. Longitudinal studies in particular are seeing success, since any single ghost subject remains available for all eternity. Technology is improving as well: New spectral adhesives carry the promise of attaching electrodes to measure ghostly movements (also known as "facial ectomyography"). A new generation of wearable devices, specially designed for ghosts who are missing limbs or are formless (punningly called "scareable devices"), reportedly is just around the corner. Even the aforementioned difficulties of fMRI, which vaporizes ectoplasm, are being surmounted as increasing numbers of researchers realize that ghosts' heads are, in fact, already fully transparent. Therefore, we must continue boldly forward in our quest to understand the emotions of the ethereal. Only then can we claim to understand the full spectrum of emotional life, from birth to death and beyond.

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RESEARCH-PROJECT PROGRESS SINCE 26 October:

Leah Richmond-Rakerd got a provisional acceptance from PNAS this week, pending a minor edit for "Childhood self-control forecasts the pace of midlife aging and preparedness for old age." **This is thrilling!**

In a remarkable 24 hour period, Leah also go this: Your manuscript, Mental disorder forecasts physical disease and mortality: 30-year analysis of 2.3 million New Zealanders, is being considered for possible publication in JAMA Network Open. Meanwhile, please complete the Authorship Form. **Hang onto your hat Leah!**

Jasmin wertz got news of an acceptance at Child Development Perspectives, for "Genetics and child development: Recent advances and their implications for developmental research" **Congratulations to Jasmin!**

Andrea Danese and team in London were shortlisted for Stage 2 of the UKRI Adolescence, Mental Health and the Developing Mind research programme competition, and invited to submit a full application. **Let the hard work begin!**

Jenny van Dongen's paper has been accepted by Molecular Psychiatry!
Jenny van Dongen; Fiona A. Hagenbeek, Msc[1]; Matthew Suderman, PhD[2,3]; Peter J. Roetman, Msc[4]; **Karen Sugden**, PhD[5,6]; PLUS LOADS OF OTHER AUTHORS, PhD; Dorret I. Boomsma[1]. DNA methylation signatures of aggression and closely related constructs : A meta-analysis of epigenome-wide studies across the lifespan"

Kyle Bourassa's paper from his internship has been accepted by the Journal of Traumatic Stress: "PTSD Treatment Effects on Cardiovascular Physiology: A Systematic Review and Future Research Agenda" **Congratulations Kyle!**

Out for mock review this week, Franky Happe and David Mason's paper on the Autism Q and midlife health and aging. Guess what? People high on autism age faster. **Thanks to all doing a mock review, due 14 November.**

Max Elliott is working on his R&R at Nature Aging. "Disparities in the pace of biological aging among midlife adults of the same chronological age: Implications for early frailty risk and policy."

Christina Carlisi is almost finishing the R&R from *JCPP*, for her paper, Associations between life-course-persistent antisocial behavior and subcortical brain volume in a population-representative longitudinal birth cohort. **Almost there Christina!**

Maria Gehred is finishing up her R&R from *Biological Psychiatry* for her paper: Long-term neural embedding of adverse childhood experiences in a population-representative birth cohort followed for five decades. **Well done, Maria!!!**

Projects underway and making good progress toward mock review:

Roy Lay-Yee, Timothy Matthews, Terrie Moffitt, Richie Poulton, Avshalom Caspi, Barry Milne. Do socially isolated children become socially isolated adults?

Kyle Bourassa and Line Rasmussen, stressful life events and suPAR

Max Elliott & Line Rasmussen, brain and suPAR

Line Rasmussen, little p and suPAR **Hurrah! Line is back from maternity leave and suPAR lives!**

Jasmin Wertz, parenting genomics in multiple cohorts

Annchen Knodt, long-term cannabis use and midlife brain structure

Madeline Meier; cannabis and brain/cognition

Karen Sugden, education and aging in multiple cohorts

Avshalom and Renate, The p-factor, an empirical evaluation

Jess Agnew-Blase, mother-child polygenic ADHD scores and family chaos

Daniel Belsky, Karen, David, Temi, and Avshalom, Dunedin PoAm4x

Aaron Reuben, childhood lead and telomere erosion

Aaron Reuben, prospective risk factors for ADRD

Leah Richmond-Rakerd, mental health and ADRD in the NZ IDI

Max Elliott, DunedinPoAm4x and dementia

Signe Hald Andersen and Leah Richmond-Rakerd, 3-generations of the concentration of disadvantage and how education breaks the cycle

Geli Ronald and Lizzie, Autism Q10 and little p

Aaron Reuben and Helen Fisher, Association of childhood air pollution exposure with the emergence of psychopathology at the transition to adulthood.

Jorim Tielbeek and JC Barnes, polygenic score for antisocial behaviour, Dunedin and E-risk

If you are working on something you want others to know about, please let me know, and I will add it to this newsletter.

This week's theme: Pandemo-ween!

Princess Clara and new spooky sister Iona!

Our socially distanced outdoor jack o’ lantern carving party!

Honalee and Robin

Pumpkin workstations spaced every 2 meters.

Oscar and Emily

Kyle and Max

Eli’s costume.

Have a truly satisfying week everyone, wherever you may be! Temi

Custard-filled donuts, baked by Stephanie in Auckland