Preregistration Report (10/23/2017)
Title: The A/B Illusion: Pilot Testing (Tech, Poverty, Medicine, Retirement, Education)
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Research Questions:

The A/B illusion is a hypothesized phenomenon in which individuals perceive the decision to run a randomized, controlled experiment (e.g., comparing two interventions, policies, or practices) on human subjects as less appropriate than simply implementing one of those alternatives without testing its effects. The A/B Illusion was previously anecdotally observed and described (Meyer, 2015), but it had never been experimentally investigated until our pilot research. The research questions we are asking include:

1. Can we demonstrate the A/B illusion in naive research participants?
2. Assuming we are able to detect an effect, do any demographic variables or other individual differences either amplify or attenuate the A/B illusion?
3. What kinds of reasons do participants give for endorsing the A/B illusion, and what kinds of reasons do participants give for approving of unilateral implementation of untested policies?

Pilot Testing Vignette Scenarios

The purpose of pilot testing our new vignettes is to determine whether participants object to the scenarios in any unforeseen ways, as well as to check for general clarity as we construct new vignettes in different domains where the A/B Illusion may emerge.

Each of the vignettes we are pilot testing has been constructed to have an A condition and a B condition. These policy conditions have already been pretested and were found to be seen as reasonably appropriate. We will proceed by creating experimental, A/B conditions for these pretested policies. Our goal is to determine whether a small, pilot sample of participants views the integration of these policies into a randomized, controlled experiment as inappropriate. We have not previously tested these vignettes. This round of pilot testing is to determine how appropriate participants view experiments resulting from testing the A and B conditions together.

The domains being tested in this round include medicine and health, prescription drugs, poverty assistance, education, and retirement savings. We will survey 30 people per vignette, fully between-subjects, with a compensation rate of $0.25 per completed response.

Survey materials are below.

In all scenarios, participants are asked to rate the appropriateness of the decision (1-5 Likert scale from very inappropriate to very appropriate), and to provide "a few sentences" on why they chose that response.

Hours 16 vs 24

"First-year residents" are new doctors who practice medicine under the supervision of more experienced doctors. The body that accredits U.S. hospital residency programs has already determined that first-year residents must work no more than 80 hours per week, averaged over 4 weeks. Now it must decide, within that constraint, how long first-year residents may work in any one shift. Second-year and later residents may work up to 24 hours at a time. The accrediting body thinks of two different policies that could best protect patients, so it decides to run an experiment by randomly assigning hospitals to one of two test conditions. Residents at half of the hospitals the body accredits will be assigned to work no more than 16 hours at a time. The accrediting body is concerned that residents working longer hours might get less sleep and that sleep-deprived residents might make errors that hurt patients. Residents at the other half of the hospitals will be assigned to work no more than 24 hours at a time. The accrediting body is concerned that shorter work hours mean more patient hand-offs, which are dangerous because it is easy for important patient information not to be relayed between care teams. Shorter hours might also mean less education, or socialization into a kind of "shift mentality" that reduces professionalism — either of which might result in less competent and less committed doctors for patients in the future. After a year, the accrediting body will require all hospitals it accredits to adopt whichever policy turns out to produce the best patient outcomes.

No Teaching Drug A vs B

Several drugs have been approved by the U.S. Food and Drug Administration as safe and effective for treating high blood pressure. Doctor Jones thinks of two different ways to provide good treatment to his patients, so decides to run an experiment by randomly assigning his patients who need high blood pressure medication to one of two test conditions. Half of patients will be prescribed drug A, and the other half will be prescribed drug B. Both drugs are affordable and patients can tolerate their side effects. After a year, he will only prescribe to new patients whichever drug has had the best outcomes for his patients.

SUPPORT

In order to survive, babies born very prematurely need special machines that control how much oxygen is in their blood. Doctors know that both too little and too much oxygen can hurt these babies. They know that a saturation level below 85% is too low, and they know that a saturation level above 95% is too high. However, doctors do not know what level is best between 85% and 95%. The head of a hospital unit that cares for premature babies thinks of two different ways to give babies the best chance of survival, so he

decides to run an experiment by randomly assigning babies in his unit to one of two test conditions. Half of the babies will be treated by machines set to keep their oxygen levels between 85% and 89%. The other half will be treated by machines set to keep their oxygen levels between 91% and 95%. After a year, he will set all oxygen machines of the babies he treats to whichever range turns out to have the highest survival rate.

Poverty All vs Poorest

A state government's department of human services is tasked with distributing welfare and unemployment resources to struggling families. The head of this department thinks of two different ways to reduce poverty and unemployment, so he decides to run an experiment by randomly assigning counties in his state to one of two test conditions. In half of counties, the state government will substantially increase welfare services offered to the poorest families: those who are the farthest below the poverty line. In the other half of counties, the state government will moderately increase welfare services equally to everyone below the poverty line. After a year, the state government will adopt for all counties in the state whichever policy turns out to best reduce poverty and unemployment.

Teacher Bonus vs. Breaks

Research has shown that increasing teacher happiness and well-being can result in better student outcomes. The superintendent of a school district thinks of two different ways to improve how well his elementary school students do, so he decides to run an experiment by randomly assigning the school's teachers to one of two test conditions. Half of the school's teachers will receive a yearly bonus. The other half will receive additional vacation days during summer and winter breaks. After a year, the superintendent will give all teachers whichever benefit turns out to result in better student outcomes.
How appropriate is the superintendent's decision?

Recruit Social vs Career

A poor nation with a severe shortage of nurses and doctors is creating a new civil service position: Health Assistant. These Health Assistants will undergo one year of training, then become the first line of healthcare for people living in the most remote regions of the country. The nation's congress thinks of two different ways to recruit the best people it can to become Health Assistants, so it decides to run an experiment by randomly assigning the nation's districts to one of two test conditions. For half of the districts, the congress will have recruitment posters made that emphasize the social benefits of becoming a Health Assistant, such as serving and being a leader in one's community. For the other half, they will have recruitment posters made that emphasize the career benefits of becoming a Health Assistant, such as opportunities for promotion and professional development. After a year, the congress will have all districts in the nation use whichever

kind of poster drew the highest-quality job applicants.
How appropriate is the congress's decision?

Scope Whimsy vs Appt

The American Cancer Society recommends that starting at age 50, healthy adults should get colonoscopies every 10 years. Colonoscopies can save lives by detecting colon cancer early, but they are not fun and many people avoid them. The medical director of a hospital thinks of two different ways to increase patients' likelihood of having potentially life-saving colonoscopies, so he decides to run an experiment by randomly assigning every patient to one of two test conditions. All patients will receive a birthday card on their 50th birthday, which reads "It's your 50th birthday - treat yourself to a colonoscopy!" For half of patients, the card will come with coupons for a bowel cleanser that patients need to drink before a colonoscopy, and a book of crossword puzzles to entertain them while they're on the toilet. The idea is that this little bit of whimsy might make the procedure seem less "icky" and lead more patients to have colonoscopies. For the other half of patients, the card will come with a notice of a pre-scheduled colonoscopy appointment, with options for selecting a more convenient time. Patients won't be charged if they don't show up. The idea is that removing the chore of scheduling will lead more patients to have colonoscopies. After a year, the medical director will have all patients turning 50 receive whichever birthday package turns out to lead the most patients to have their recommended colonoscopies.
How appropriate is the medical director's decision?

Poverty Roof vs. Training

Last year, a charity received a large number of donations. The director of this charity thinks of two different ways to help people in a low-income country escape extreme poverty, so he decides to run an experiment by randomly assigning people to one of two test conditions. Half of all adults below a certain income level will receive a sturdy roof for their home. The other half will receive one month of training in a trade of their choice. After a year, the director will begin providing everyone in the country whichever resource (roof or training) turns out to help more people escape extreme poverty.
How appropriate is the director's decision?

Benefits All vs Unemployed

The congress of a small country wants to provide support for citizens who are unable to find work, while also encouraging those citizens to find and take on jobs. The congress thinks of two different ways to do this, so it decides to run an experiment by randomly assigning citizens to one of two test conditions. Half of citizens who have been out of work for at least 12 months will receive the equivalent of $1000 per month for 6 months, or until they find a job, whichever comes first. The other half will receive the equivalent of $500 per month for 6 months, even if they find a job during that time. To be eligible

for either of these payments, unemployed citizens must attend monthly job fairs run by the government. After a year, the congress will provide to all citizens who have been unemployed for at least 12 months whichever benefit system turns out to lead to lower unemployment among those who receive it.   How appropriate is the congress's decision?

Funds Highlight vs. Funds More

Most people in the U.S. save too little for retirement, causing them financial problems later in life. Company retirement plans are a good way to save, but too few employees choose to enroll in them. The CEO of a company thinks of two different ways to encourage newly hired employees to enroll in the company retirement savings plan, so he decides to run an experiment by randomly assigning new hires to one of two test conditions. For half of new hires, he will provide enrollment paperwork that highlights the most popular of the 10 investment funds the company offers. For the other half of new hires, he will increase the number of available investment funds from 10 to 15. After a year, the CEO will adopt whichever practice turns out to lead the most employees to enroll in the company's retirement program.   How appropriate is the CEO's decision?

TeachDrug A vs B

Several drugs have been approved by the U.S. Food and Drug Administration as safe and effective for treating high blood pressure. Doctor Jones works in a multi-doctor walk-in clinic where patients see whichever doctor is available. Some doctors in the clinic prescribe drug A for high blood pressure, while others prescribe drug B. Both drugs are affordable and patients can tolerate their side effects. Doctor Jones thinks of two different ways to provide good treatment to his patients, so decides to run an experiment by randomly assigning his patients who need high blood pressure medication to one of two test conditions. Half of patients will be prescribed drug A, and the other half will be prescribed drug B. After a year, he will only prescribe to new patients whichever drug has had the best outcomes for his patients.