# p-curve project

Okay, for our next project, everyone (including myself and auditors) will have to p-curve something. Anything. So, basically the first step would be to decide on something to p-curve. And the p-curve paper mentions a lot of possible uses:

“We envision that most applications of p-curve will involve assessing the evidential value of the core findings put forward in a set of studies, whatever those findings were. Examples include assessing the evidential value of findings aggregated by article, author, journal, or method of analysis.”

So, you could p-curve a set of studies using the same manipulation, the same DV, or the same analyses. You could p-curve recent work by a given lab. You could p-curve recent studies on Topic X. You could p-curve papers published in the spring issue of JPSP from 1989. The sky (or cellar) is the limit, depending on how ambitious you want to be. The p-curve authors make p-curving super easy to do. Just go to http://www.p-curve.com/ and check out the widget and user guide.

For this assignment, I’ll only impose one restriction on what you can p-curve, and that is: *please don’t p-curve yourself*. Nobody needs to watch you play with your own p-values, so please do it on your own time. Since we’ll be presenting these in class, I’ll assume that nobody other than you really cares that much about your research. So please pick something substantive, rather than purely masturbatory.

## With great p-curve comes great responsibility

In the literature, we’ve already seen some published works using p-curves to vindicate or vilify programs of research. So, it’s really important to p-curve responsibly. One of the things that a p-curve can do is diagnose whether a given group of studies is tainted by selective reporting of results. It can spot people who cherry pick things that “work.” So it would be ***fucking stupid and irresponsible*** to cherry pick among potential p-curves.

How does one insulate oneself from charges of cherry picking? By committing to full transparency[[1]](#footnote-1). This means 2 things: 1) as the p-curve authors note, you need to complete a p-curve declaration table where you provide some information about all of the effects you are p-curving, and 2) if you want to prove that you had the topic and inclusion criteria before the curve, you need to preregister your p-curve plan. Preregistering methods and hypotheses is your way of telling that pesky Reviewer #2 “Hey dummy, I was confident enough in what I was doing that I was willing to go on the record about it before I had my data in front of me to use as a crutch. Now go HARK yourself.”

The first bit is easy. As you are doing the p-curve, fill out a disclosure table. They provide a template. The second bit is also very easy. Create an OSF account and then write up a quick Word doc where you outline 1) what you’re p-curving, 2) your inclusion/exclusion criteria, and 3) how many studies you are nabbing. Upload this and preregister it. Email me the link to your preregistration before you start curving anything. I’ll even provide a copy of my lab’s shiny new preregistration template to use.

There, now you’ve proven that you’re a responsible p-curver. And you have the documentation to back it up. And hey, now you also have an OSF account and have learned how to preregister stuff. Congrats. How about some details for the actual assignment?

## Nuts and bolts

Broadly, this assignment has three parts. Two of them are (more-or-less) private. The third is public. For people taking the class for credit, it’s graded. For auditors, the more you put into this, the better it will be for everyone. Don’t let us (and yourself, and your pets and parents) down.

1. **Registration.** Before you start plugging through the journals to dig up dirt or gold about the literature, you’ll need to identify what you want to p-curve. Pick a topic/person/method/analysis/thingamajig to p-curve. Decide on inclusion/exclusion criteria for your effects. I’ll send everyone my registration for my p-curve, to give you an idea what I’m looking for. Please do your preregistration and share it with me by Tuesday, March 5 at the latest. It doesn’t take long, so earlier is probably better, as that’ll give you time to actually do the p-curving.
   1. Normally, you’d preregister a hypothesis (if you’re the bold type of scientist who believes that ***pre***dictions should ***pre***cede data). That’s kind of pointless with a p-curve. Instead, just for fun, preregister how likely you think it is that the p-curve will turn up a conclusion of “Studies contain evidential value.” If you are certain that there won’t be evidential value, rate it as 0. If you are certain that there will be evidential value, rate it as 1. If you are exactly undecided, rate it at .5. You get the point. It’ll be fun to see how well we can predict what does and doesn’t curve well.
2. **Disclosure table.** The p-curve page has details on this. Basically, you just need to record which effects you’re curving and how you went about it.
3. **p-curve presentation.** Everybody prep a ~10-15 minute little presentation about your p-curve. Give us some background on what you’re curving. Walk us through your preregistered methods. Let us know what probability you assigned it. Show us the disclosure table. Then show us the actual p-curve.

Now, how big does your p-curve have to be? If we don’t do enough, then I’m guessing we’ll get lots of inconclusive curves. That’s not very fun. So, everyone needs to include at least 20 p-values in their curve. That should give us a decent chance to find some interesting things.

1. Naturally, this point generalizes well beyond p-curves. [↑](#footnote-ref-1)