# Revision history for repwr repository

## Nathan (Nat) Goodman November 8, 2018

#### Release 1.31 2018-11-08

- Fix bugs revealed by generating document with m=1e2
- Add figures and tables for m=1e2 and m=1e3, and ones inadvertently omitted for m=1e4
- Add data files needed to generate document: mesr.\*, smry.\*, posr/\*

#### Release 1.30 2018-11-07

Support supplementary material (resigsupp.Rmd) for the shortened blog post with results that didn't fit in the published post for reasons of space or pedagogy

## New files

- R/doc\_resigsupp.R generates figures and tables for resig supplement
- R/docfun\_resig.R contains functions used by doc\_resig; extracted from R/doc\_resig.R
- R/docfun\_resigsupp.R contains functions used by doc\_resigsupp; adapted from R/docfun\_resig.R

#### Deleted files

• R/doc\_xperiment.R was just a stub that became obsolete

#### Major code changes

- New mechanism for generating figure and table names
  - names may have document-specific prefix, be section-specific, and occur in blocks with incrementing suffixes (e.g., S2-1a)
  - also handles names for 'extra' figures, ie, ones that don't appear in the document
- New scheme for running sections in doc\_XXX functions
  - runs sections in sapply loop to allow uniform per-section initialization and setup
  - supports new figure and table names
- Doc-specific initialization moved from init to init\_doc in R/init.R

## Changed files

- R/datman.R
  - filename fig, figname, filename tbl, tblname implement new figure and table names
  - extends filename to handle NULL components
- R/doc.R
  - dodoc uses wrap\_fun to parcel parameters between init, init\_doc, doc\_XXX function
  - dofig and dotbl use new figure and table names
  - figinc, tblinc, etc. manage figure and table names
  - dofig uses wrap\_fun to pass correct parameters to figfun
- R/doc readme.R, R/doc repwr.R,
  - uses new scheme for running sections
- R/doc\_resig.R
  - uses new scheme for running sections
  - uses xdata\_near to generate data for nearexact case
  - removed code for functions called by doc\_resig moved to R/docfun\_resig.R
  - removed code for supplement moved to R/doc\_resigsupp.R
- R/init.R

- moved doc-specific initialization from init to init\_doc
- init doc includes initialization for new figure and table names
- R/plot.R
  - renamed legend.where to legend throughout that's what doc\_XXX functions call it
  - when called the old way, legend matched legend. where and all was good.
  - with wrap\_fun doesn't happen because code looks for exact parameter name
  - change arguments to all top-level functions for new figure names
  - fix recurrent bugs that cause matrices to become vectors when selecting single row or column
  - fix bug in ragm legend that caused labels to misalign
- R/repwr.R, R/resig.R
  - run uses wrap\_fun to parcel parameters between init, dodata, dodoc
- R/sim\_resig.R
  - doposr creates bias1 posr needed by resig supplement
- R/util.R
  - wrap\_fun propagates locals and dots (...) to called function
  - ucfirst upper-cases first letter of string
  - extends cq to handle more atomic types
- R/Xperiment/detl\_conditional.R, R/Xperiment/detl\_handcrafted.R
  - port to new run, init schemes
- R/Xperiment/hack proptrue.R, R/Xperiment/uri answer01.R
  - port to new run, init, section-running schemes

#### Release 1.21 2018-09-27

Fix typos and restore code accidentally deleted in version 1.20

#### Release 1.20 2018-09-26

Support shortened blog post, Systematic Replication May Make Many Mistakes (resig.Rmd), kindly posted by Bob Reed on The Replication Network

## New files

- R/doc\_resig.R generates figures and tables for resig blog post
- R/sim\_resig.R like R/sim.R but only computes measures needed for resig blog post: sig1, sig2, sdir
- R/resig.R like R/repwr.R but loads resig-specific files

#### Code changes

- Many changes to R/plot.R to support resig blog post:
  - Added 'plotratm' function to plot multiple rates for a single measure
  - Added 'spline' smoothing method
  - Added more line properties to 'extra' vertical and horizontal lines. Still a hack that will need further cleanup
  - Added specialized function for resig figure titles
  - Added ability to omit legend
  - Added plot.cutoff control consistently to all top level functions
  - Added col parameter to all plotXXXm functions to set colors for rate
- Added spline smoothing method to all line plotting functions. Uses R's smooth.spline

## Bug fixes

• Fix bug due to apply converting single row matrix into vector. sigh... Bug was present in several functions

## Release 1.11 2018-08-31

Support third draft blog post Systematic Replication Has Limited Power to Detect Bad Science (repwr.Rmd). Document changes

- Blog post (repwr.Rmd)
  - Add reference to new systematic replication study just published in Nature Human Behavior
  - Delete final paragraph with Oprah Winfrey quote: not really on-target
  - Add words on posting comments using GitHub Issue Tracker

#### Release 1.10 2018-08-22

Support second draft blog post Systematic Replication Has Limited Power to Detect Bad Science (repwr.Rmd).

## Document changes

- Blog post (repwr.Rmd)
  - Change title and added words in the Abstract, Introduction, and Discussion to clarify that the post is about *systematic* replications
  - Add references suggested by readers
  - Add more emphasis to David Colquhoun's point about taking into account the prior probability that studies are true
  - Add terms suggested by readers: direct replication, conceptual replication, study heterogeneity
  - Add sentence noting that "measures answer different questions, but all appear in papers or posts
    as tests to accept or reject replications" as suggested by reader
- README
  - Reflect changes to dodata and dodoc interfaces and clean default
  - Remove mention of technical notes document no point making promises I may not keep
  - Add mention of previous version (1.00) of blog post

#### Design changes

- Refactor data aggregation code into data\_agg function and drag data type
- Add support for experimental sandbox code, mainly to document sandbox projects
- Improve dodata, dodoc interfaces. These are top-level functions called by run. May also be called directly
  - Move processing of default values to init
  - Move figscreen, fignew parameters from dodoc to init because they depend on doc which is not fully set until init
  - In dodoc, set default for docfun after init for same reason
  - In dodoc, prefix match xperiment doc for same reason
  - Add need.init parameter to avoid rerunning init when called from run
  - Set default for need.init to TRUE so top-level calls will run init
- Move rate.type conversion from drat\_order to data\_rate; this is the natural place where I expect it
  to be
- Add ability to save figures to files without first plotting to screen; much faster!

## Changes to directory and repo organization

- Add version-specific copies of blog post documents
- Remove data files from repo. I was only storing files needed to draw figures which seemed like good idea but interacts poorly with caching scheme. With the data files gone, user has to generate data before drawing figures
- Generate figures for non-default values of m; just for completeness

#### Bug fixes

- Setting from.type, relto.type in plot functions does not select desired posr
  - Caused by conflicting parameter defaults. plotrate and related functions provide default values for from.type, relto.type, posr.id and pass the values to called functions. By the time the values make it to get\_posr which does the work, it looks like all three parameters were set by the original caller. get posr calls casename posr which lets id supersede the others
  - Opted for simplest solution. Always use posr.id to identify posr. Give up trying to use from.type,
     relto.type
- Make sure data.list exists before trying to delete elements

## Code cleanup

- Add vhlty parameter to plot functions to set line type for extra vertical and horizontal lines; quick hack, not very general
- Consolidate documentation (still just in comments, sorry) for all aggregate plot functions
- Change default for 'smooth' in aggregate plots to aspline
- Require xperiment (experimental sandbox) doc types to explicitly set n, d, m to support multiple experimental sandboxes
- Change clean.figure to clean.fig for stylistic consistency in init
- Change calls to filename function to file.path for stylistic consistency
- Set default for clean to FALSE for all doc types; setting it TRUE for doc=readme simplified README document but complicated interactive use
- Set default for clean.memlist to TRUE; setting it based on clean led to hard-to-find bugs caused by stale data in memlist cache
- Remove ability for a single figfun call to draw multiple figures; doesn't work with new scheme for saving figures and I no longer use this feature

#### Release 1.00 2018-07-27

Support first draft blog post Systematic Replication Has Limited Power to Detect Bad Science (repwr.Rmd) sent to external readers for feedback.

#### Release 0.93 2018-07-25

Release candidate

This version is nearly a complete rewrite of the previous version. Some highlights are

- Remove obsolete scripts including  ${\tt R/scope.R}$  and  ${\tt R/distr.R}$
- Add R/repwr.R and many other scripts
- For data, add current top-level files needed for analysis and plotting. Did not add data subdirectories as these are huge (261MB for m=1e3, 980MB for m=1e4) and not needed once the simulation is done

## Release 0.92 2018-01-01

#### scope.R

- Add plot\_cross, plot\_pclose1
- Integrate d2t probability functions from distr.R
- Systematically precompute useful data tables: d1, d33, dcross, dsig, dclose, dcrit

## distr.R

• Add pval2t, pval2d functions

• Correct usage of lower.tail parameter in d2t probability functions

## Release 0.91 2017-12-19

- Change sampling distribution from normal to noncentral t.
- Remove unused code.
- Clean up code for translating Cohen's d to t-statistic and t-distribution; simplify function names.

## Release 0.90 2017-12-07

First version. Ready for feedback from external readers.

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