100 Years of Social Work Research: A Data Science Perspective

Data collection

- Article record retrieval date: January 8, 2015 Database: PsychInfo and Social Science Index (via EbscoHost Platform)

- Search terms: SO "social work" or SO "social welfare" or SO "social casework" or "social case work" or SO "social service" or "social services" or SO "human service" or SO "human services" or SO "social development" or SO "social environment"

- Search limiters: Publication Type: Peer Reviewed Journal; Document Type: Journal Article

- Search modes: Boolean/Phrase

- Search results were exported from EbscoHost Platformon in a *generic bibliographic format*. This is an unstructured text file (*.txt) that was processed using in R.

- EbscoHost full journal listing retrieval date: January 11, 2015 (http://www.ebscohost.com/title-lists)

Data Pre-Processing

```r
# Clear workspace
rm(list=ls())

# Read BWR functions for Mac OS
source("/Users/beperron/Git/BibWrangleR/functions/piWrangleR.R")
source("/Users/beperron/Git/BibWrangleR/functions/packages.R")
# Set the path where original raw data are stored
setwd("/Users/beperron/Git/SocialWorkResearch/Data")

# Set the working directory to store files created by BWR functions
path <- "/Users/beperron/Git/SocialWorkResearch/Data"

# Wrangle the data with the BWR function suite
#piBWR.f(csv=FALSE, path=path)
#save(pi.df, file = "piArticles.R")
```

```
[1] 545365      3
```

```
[1] "attributes" "articleID"  "record"
```

```
[1] 26572
```

Journals excluded from search results. *Social Work* today excluded because it is of a magazine format.

```r
pi.df <- pi.df %>% filter(
        record != "Journal of Applied Social Sciences" &
        record != "Early Child Development and Care" &
        record != "The Clinical Supervisor" &
        record != "Children and Youth Services Review" &
        record != "General Hospital Psychiatry" &
        record != "Canadian Journal on Aging" &
        record != "Canadian Journal of Community Mental Health" &
        record != "Behavior Modification" &
        record != "Employee Assistance Quarterly" &
        record != "Journal of Applied Behavioral Science" &
        record != "The Scientific Review of Mental Health Practice: Objective Investigations of Controv
        record != "Systems Research and Behavioral Science" &
        record != "Journal of Applied Rehabilitation Counseling" &
        record != "Journal of Educational & Psychological Consultation" &
        record != "Journal of Community & Applied Social Psychology" &
        record != "Evaluation and Program Planning" &
        record != "Journal of Nonverbal Behavior" &
        record != "Brain and Cognition" &
        record != "Early Education and Development" &
        record != "American Journal of Preventive Medicine" &
        record != "Social Work Today")
```

Two journal titles were merged because one set of records was a logical abbreviation of another set of records.

```r
pi.df$record <- ifelse(pi.df$record == "Practice", "Practice: Social Work in Action"
                , pi.df$record)
pi.df$articleID <- ifelse(pi.df$articleID == 74, 42, pi.df$articleID)

pi.df$record <- ifelse(pi.df$record == "Eugenics & Social Welfare Bull.", "Eugenics and Social Welfare
pi.df$articleID <- ifelse(pi.df$articleID == 28, 32, pi.df$articleID)
```

Preliminary Analyses

All analyses provided here are not in publishable format, but presented to determine the basis of a storyline.
All tables and figures will be styled according to a target journal.

Summary of all journal titles included in the analysis

To do:

- In the table, include the first and last years of indexing, and the numbers of articles.

- Write the script to output a *.csv file so that it can be included as an Appendix without any formatting.

```
## [1] 87
```

```
##  [1] "Clinical Social Work Journal"
##  [2] "Indian Journal of Psychiatric Social Work"
```

```
##  [3] "British Journal of Social Work"
##  [4] "Indian Journal of Social Work"
##  [5] "Social Casework"
##  [6] "Social Work"
##  [7] "Smith College Studies in Social Work"
##  [8] "British Journal of Psychiatric Social Work"
##  [9] "Journal of Sociology and Social Welfare"
## [10] "Journal of Social Welfare"
## [11] "Social Work in Health Care"
## [12] "Social Service Review"
## [13] "Journal of Psychiatric Social Work"
## [14] "Medical Social Work"
## [15] "Jewish Social Services Quarterly"
## [16] "Proceedings of the National Conference of Social Work"
## [17] "Social Service"
## [18] "Journal of Social Casework"
## [19] "Social Work Yearbook"
## [20] "Social Work Technique"
## [21] "Journal of Social Work Process"
## [22] "University of Chicago Social Service Monograph"
## [23] "Pennsylvania Social Work"
## [24] "Journal of Social Work"
## [25] "Hospital Social Service"
## [26] "Social Service Monographs"
## [27] "International Conference of Social Work"
## [28] "Eugenics and Social Welfare Bulletin"
## [29] "New York State Department of Social Welfare, Division Publication"
## [30] "Social Service Department, Presbyterian Hospital, New York"
## [31] "University of Washington Publications: Social Services"
## [32] "Social Work & Christianity"
## [33] "Journal of Social Service Research"
## [34] "Journal of Religion & Spirituality in Social Work: Social Thought"
## [35] "Social Work with Groups: A Journal of Community and Clinical Practice"
## [36] "Journal of the Society for Social Work and Research"
## [37] "Social Work Research"
## [38] "Social Work Education"
## [39] "Ethics and Social Welfare"
## [40] "Australian Social Work"
## [41] "Practice: Social Work in Action"
## [42] "Journal of Social Work Practice"
## [43] "Journal of Social Work Education"
## [44] "Child & Adolescent Social Work Journal"
## [45] "Affilia: Journal of Women & Social Work"
## [46] "Research on Social Work Practice"
## [47] "Health & Social Work"
## [48] "Journal of Gerontological Social Work"
## [49] "Journal of Human Behavior in the Social Environment"
## [50] "Administration in Social Work"
## [51] "Social Work in Mental Health"
## [52] "Social Development"
## [53] "Qualitative Social Work: Research and Practice"
## [54] "International Social Work"
## [55] "Child & Family Social Work"
## [56] "Journal of Technology in Human Services"
```
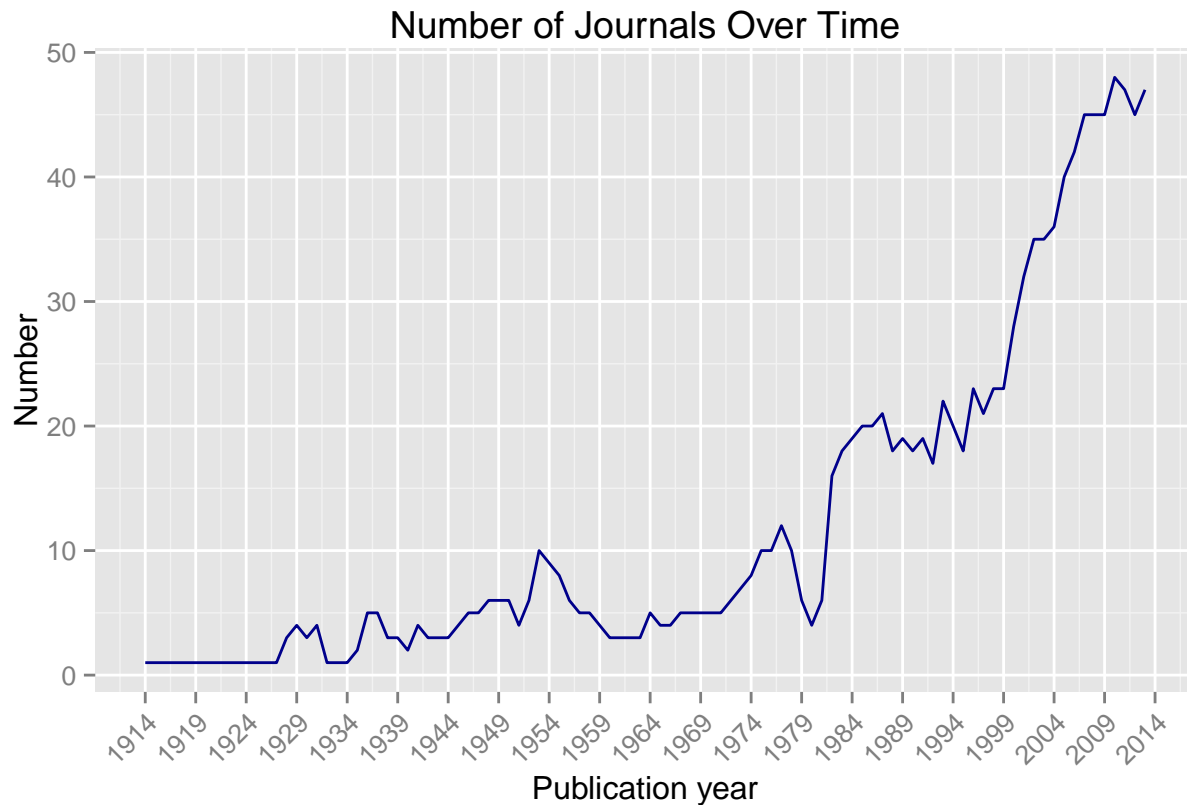
```
## [57] "Journal of Evidence-Based Social Work"
## [58] "Children & Schools"
## [59] "Journal of Social Work in End-of-Life & Palliative Care"
## [60] "Families in Society"
## [61] "Journal of Ethnic & Cultural Diversity in Social Work: Innovation in Theory, Research & Practi
## [62] "Journal of Social Work Practice in the Addictions"
## [63] "Journal of Gay & Lesbian Social Services: The Quarterly Journal of Community & Clinical Practi
## [64] "International Journal of Social Welfare"
## [65] "School Social Work Journal"
## [66] "Journal of Progressive Human Services"
## [67] "The Journal of Baccalaureate Social Work"
## [68] "Psychoanalytic Social Work"
## [69] "Journal of HIV/AIDS & Social Services"
## [70] "Social Development Issues: Alternative Approaches to Global Human Needs"
## [71] "Social Work and Social Sciences Review"
## [72] "Journal of Gay & Lesbian Social Services: Issues in Practice, Policy & Research"
## [73] "Rural Social Work"
## [74] "Journal of Social Work Research and Evaluation"
## [75] "Computers in Human Services"
## [76] "Journal of Social Work & Human Sexuality"
## [77] "Journal of Multicultural Social Work"
## [78] "Journal of Analytic Social Work"
## [79] "Maatskaplike Werk/Social Work"
## [80] "Issues in Social Work Education"
## [81] "Journal of Teaching in Social Work"
## [82] "Social Work Research & Abstracts"
## [83] "Prevention in Human Services"
## [84] "Journal of Independent Social Work"
## [85] "Social Work in Education"
## [86] "Pediatric Social Work"
## [87] "School Social Work Quarterly"
```

Count of unique journal titles over time

To do: + Integrate the full journal listing of EbscoHost + Plot overall number of journals over time + Plot overall number of journals by major discipline category as defined by EbscoHost classification – use sociology, anthropology, economics, psychology, and political science

Number of Journals Over Time

Growth of Social Work compared to growth of the social sciences

```
ebscoFullListing.df <- ebscoFullListing.df[ebscoFullListing.df$SourceType == "Academic Journal",]
ebscoFullListing.df$IndexingStart <- format(as.Date(ebscoFullListing.df$IndexingStart, "%m/%d/%Y"), "%Y"
ebscoFullListing.df$IndexingStop <- format(as.Date(ebscoFullListing.df$IndexingStop, "%m/%d/%Y"), "%Y")
ebJournals.df <- ebscoFullListing.df %>% filter(SourceType == "Academic Journal") %>%
    select(Discipline, IndexingStart, IndexingStop, PublicationName, ISSN) %>%
    mutate(IndexingStart = as.numeric(IndexingStart), IndexingStop = as.numeric(IndexingStop)) %>%
    filter(Discipline == "Sociology" | Discipline == "Political Science & Studies"|
           Discipline == "Psychology"| Discipline == "Economics" | Discipline == "Anthropology")

ebJournals.df.unique <- ebJournals.df %>% select(ISSN)
ebJournals.df.unique <- !duplicated(ebJournals.df.unique)
ebJournals.df <- ebJournals.df[ebJournals.df.unique, ]



ebJournals.df <- ebJournals.df[!(ebJournals.df$PublicationName %in% journals.unique),]

ebJournals.df <- select(ebJournals.df, -PublicationName, -ISSN) %>%
    mutate(journalID = c(1:nrow(ebJournals.df))) %>%
    mutate(journalID = as.factor(journalID)) %>%
    select(-Discipline)

#ebJournals.melted <- melt(ebJournals.df)
```

```r
#ebJournals.overtime.start <- ebJournals.melted %>%
#    filter(value = !is.na(value)) %>%
#    group_by(Discipline, value) %>%
#    summarise(N.start = n())

#ebJournals.overtime.end <- ebJournals.melted %>%
#    filter(variable == "IndexingStop"  & !is.na(value)) %>%
#    group_by(Discipline, value) %>%
#    summarise(N.end = n())

#ebjournals.joined <- left_join(ebJournals.overtime.start, ebJournals.overtime.end) %>%
#    mutate(N.end = ifelse(is.na(N.end), 0, N.end), Cumulative = cumsum(N.start)) %>%
#    mutate(N.adjusted = Cumulative - N.end)


ebJournals.melted.d <- melt(ebJournals.df)
```

Using journalID as id variables

```r
ebJournals.overtime.start.d <- ebJournals.melted.d %>%
    filter(value = !is.na(value)) %>%
    group_by(value) %>%
    summarise(N.start = n())

ebJournals.overtime.end.d <- ebJournals.melted.d %>%
    filter(variable == "IndexingStop"  & !is.na(value)) %>%
    group_by(value) %>%
    summarise(N.end = n())

ebjournals.joined.d <- left_join(ebJournals.overtime.start.d, ebJournals.overtime.end.d) %>%
    mutate(N.end = ifelse(is.na(N.end), 0, N.end), Cumulative = cumsum(N.start)) %>%
    mutate(N.adjusted = Cumulative - N.end)
```
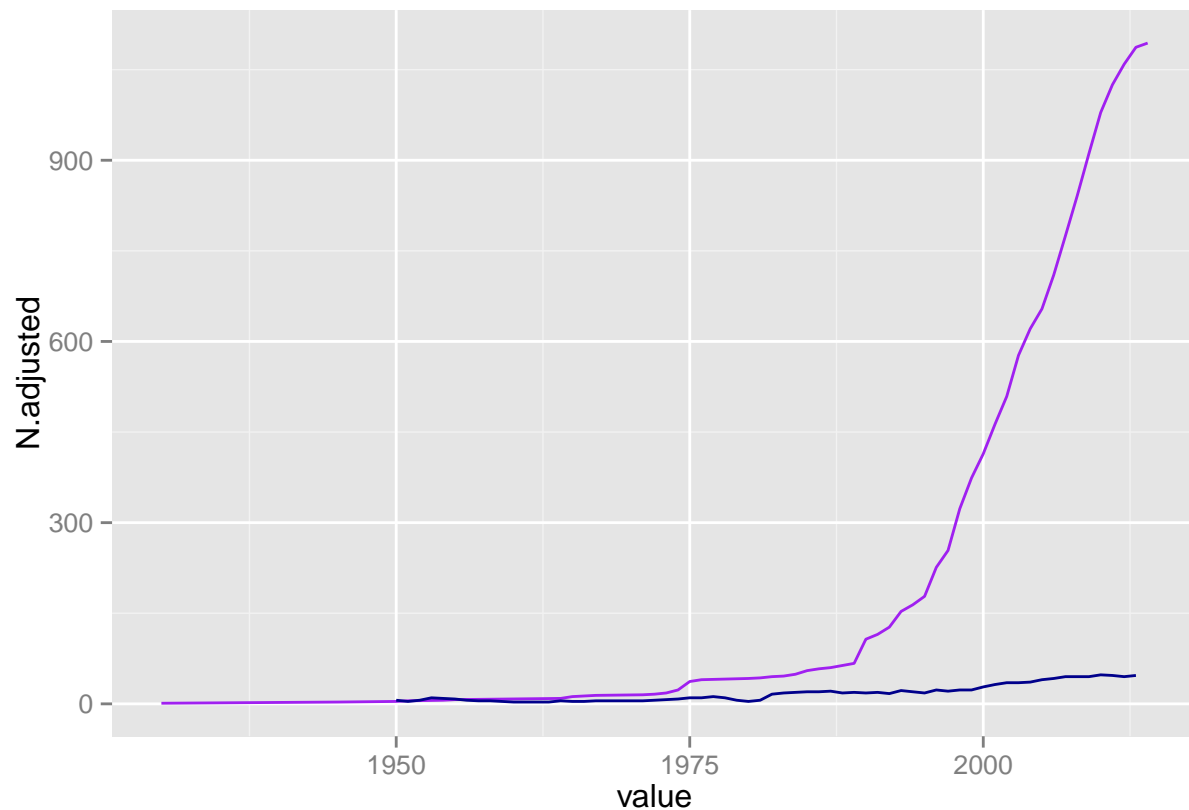
Joining by: "value"

```r
journal.time.reduced <- n.journals.year %>% filter(year >= 1950)
ggplot() +
    geom_line(data = ebjournals.joined.d, aes(x=value, y=N.adjusted), group=1, colour="purple") +
    geom_line(data = journal.time.reduced, aes(as.numeric(year), y=n), group=1, colour="darkblue")
```

What journals published the most number of articles

```
## Joining by: "articleID"
```

```
## Source: local data frame [10 x 4]
##
##                                    title first last n.to.date
## 1                            Social Work  1948 2013      1828
## 2         British Journal of Social Work  1971 2013      1407
## 3                     Families in Society  1990 2013      1186
## 4   Journal of Gerontological Social Work  1981 2013      1135
## 5               Social Work in Health Care  1975 2013      1112
## 6                         Social Casework  1950 1989      1088
## 7    Smith College Studies in Social Work  1930 2013      1050
## 8             Clinical Social Work Journal  1973 2013      1027
## 9       Research on Social Work Practice  1991 2013       928
## 10                  Health & Social Work  1976 2013       889
```

What is the lifespan of journals?
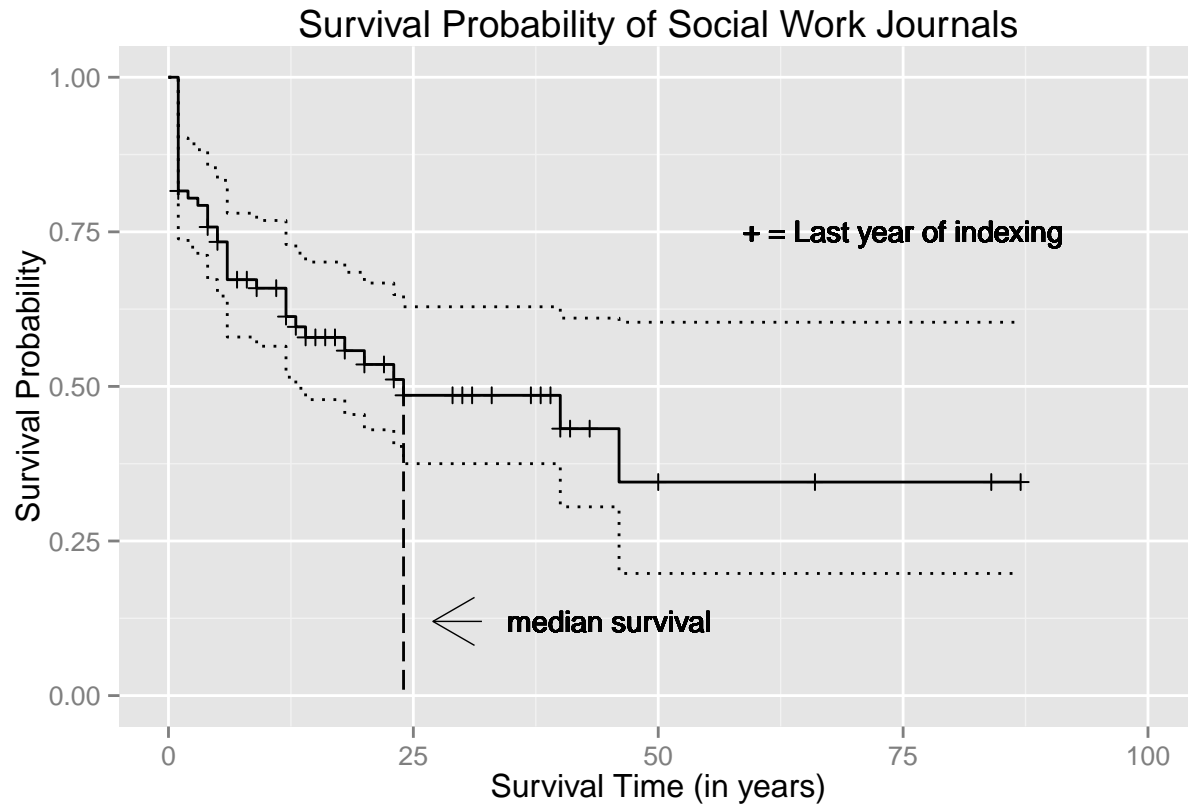
To do: + Incorporate all EbscoHost journals and the separate disciplinary journals

```
## Source: local data frame [6 x 4]
##
##                             title stop event first
## 1              Social Service Review   86     0  1927
```

```
## 2 Smith College Studies in Social Work    83    0  1930
## 3                         Social Work    65    0  1948
## 4               Journal of Social Work    49    0  1964
## 5         Indian Journal of Social Work    45    1  1941
## 6        British Journal of Social Work    42    0  1971
```
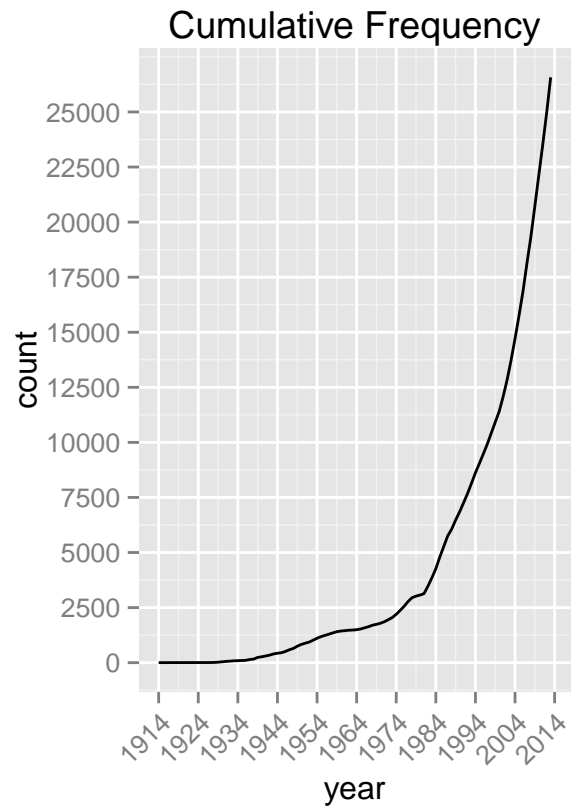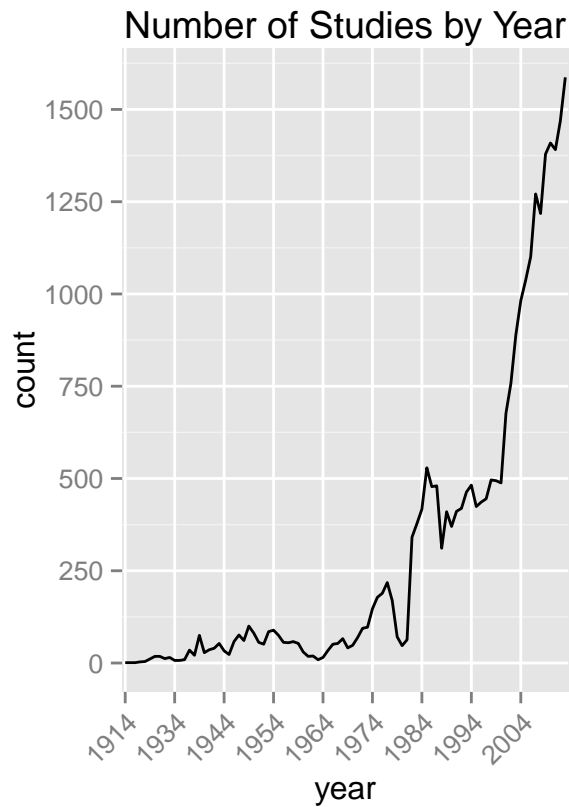
Survival Probability of Social Work Journals

What is the number of articles published per year

To do: + Plot against major disciplinary categories

```
## Scale for 'x' is already present. Adding another scale for 'x', which will replace the existing scale
```

Number of Studies by Year

Cumulative Frequency


```
##      years year.count
## 81   2004         982
## 82   2005        1038
## 83   2006        1101
## 84   2007        1271
## 85   2008        1218
## 86   2009        1379
## 87   2010        1409
## 88   2011        1391
## 89   2012        1469
## 90   2013        1587
```

What are the most frequent topic areas (by author specified keywords)?

To do:
+ Fix script that performs matching – convert all keywords to lower before matching

```
$subject.terms.total
[1] 111806

$subject.terms.unique
[1] 50736


        subject.terms Freq
```

```
1                    socialwork 1883
2                  socialworkers 1798
3           socialworkeducation  737
4            socialworkpractice  538
5                      children  355
6                socialservices  334
7                  mentalhealth  319
8             socialworkstudents  315
9                   childwelfare  269
10 childhoodandadolescence  252
11                       family  252
12                          hiv  247
13                socialsupport  237
14                  riskfactors  230
15               socialcasework  222
16                   fostercare  219
17                  adolescents  213
18                psychotherapy  211
19                        india  202
20                 spirituality  198
21                  methodology  196
22                      poverty  194
23                 intervention  183
24                   depression  182
25                decisionmaking  181
```
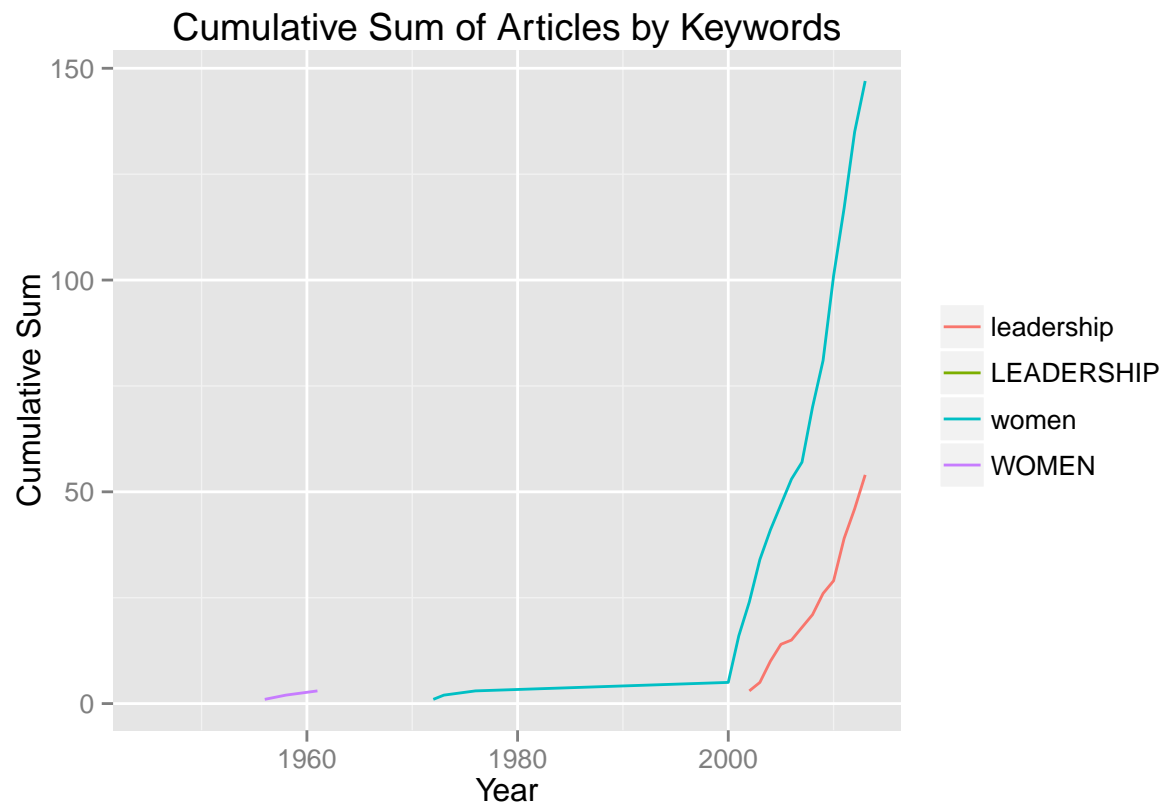
Most Frequent Author Keywords

DO NOT INTERPRET RESULTS HERE THIS SECTION IS NOT WORKING PROPERLY

For this analysis (to-do), select a few keywords that may tell an interesting story of how they change over time – something that might be revealing of 'trends.'
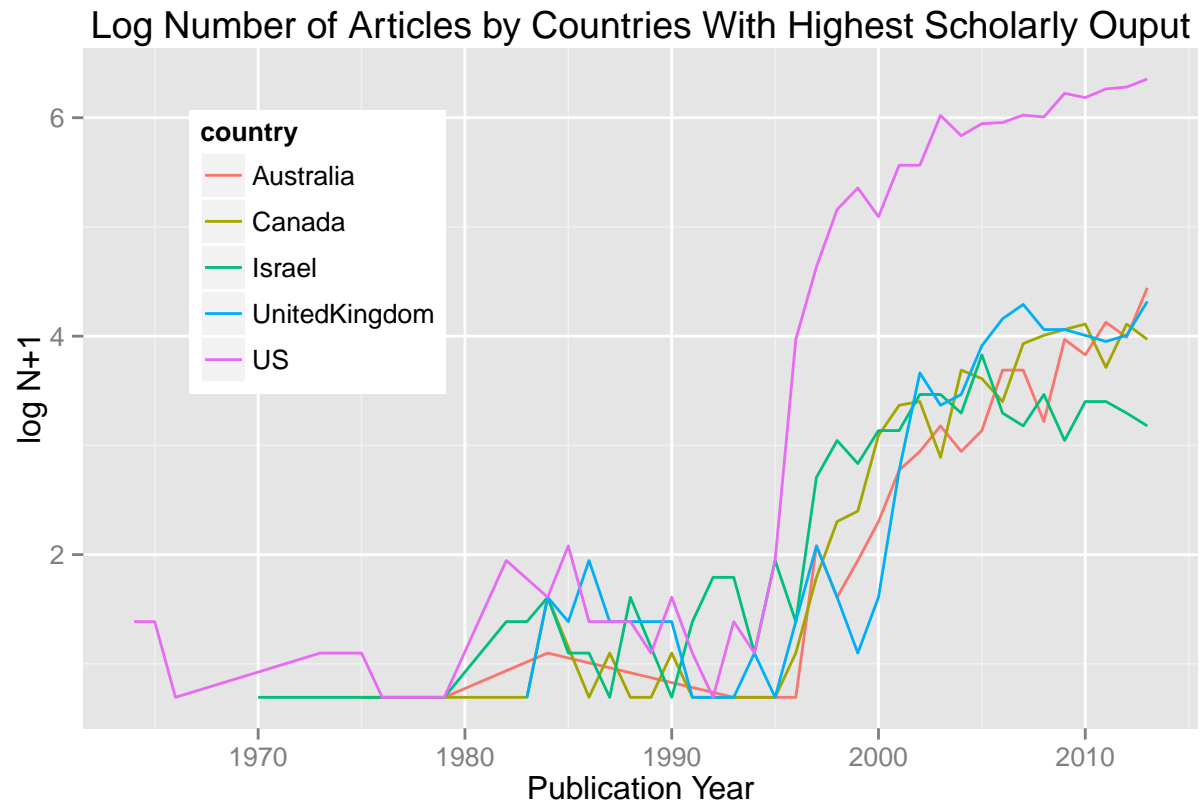
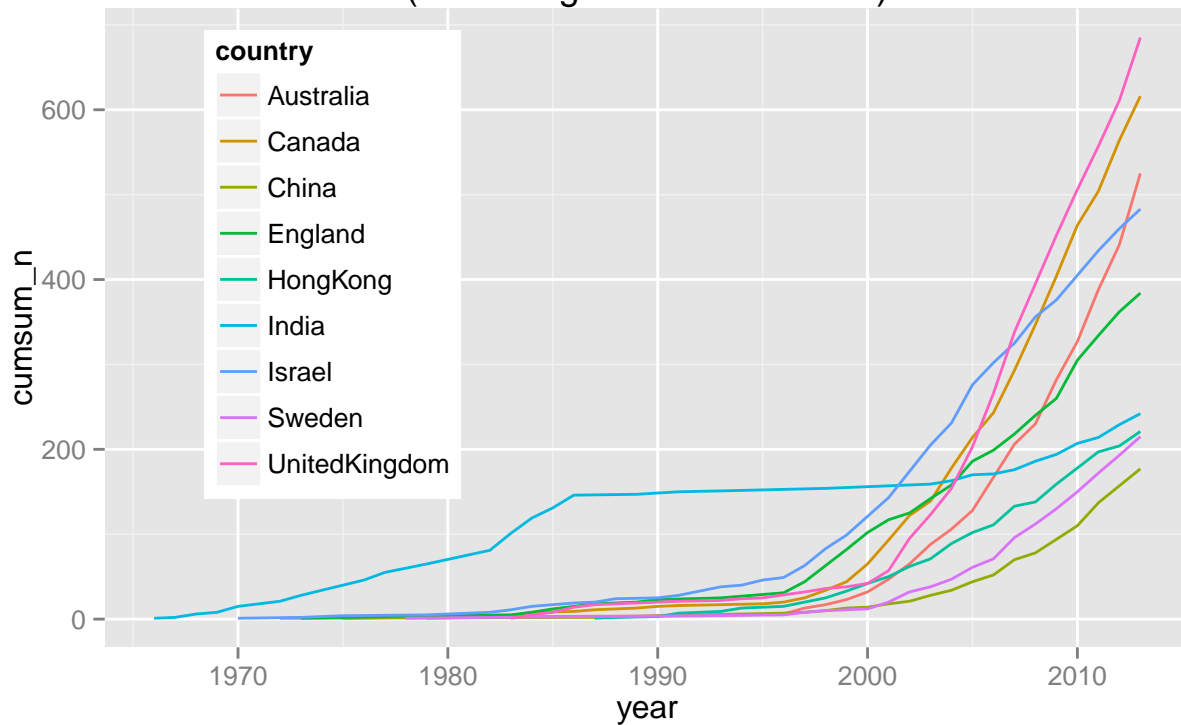Cumulative Sum of Articles by Keywords

Location of Studies

To do: + Determine best format / presentation of map

Location of studies over time

To do: + Determine best format / presentation of map

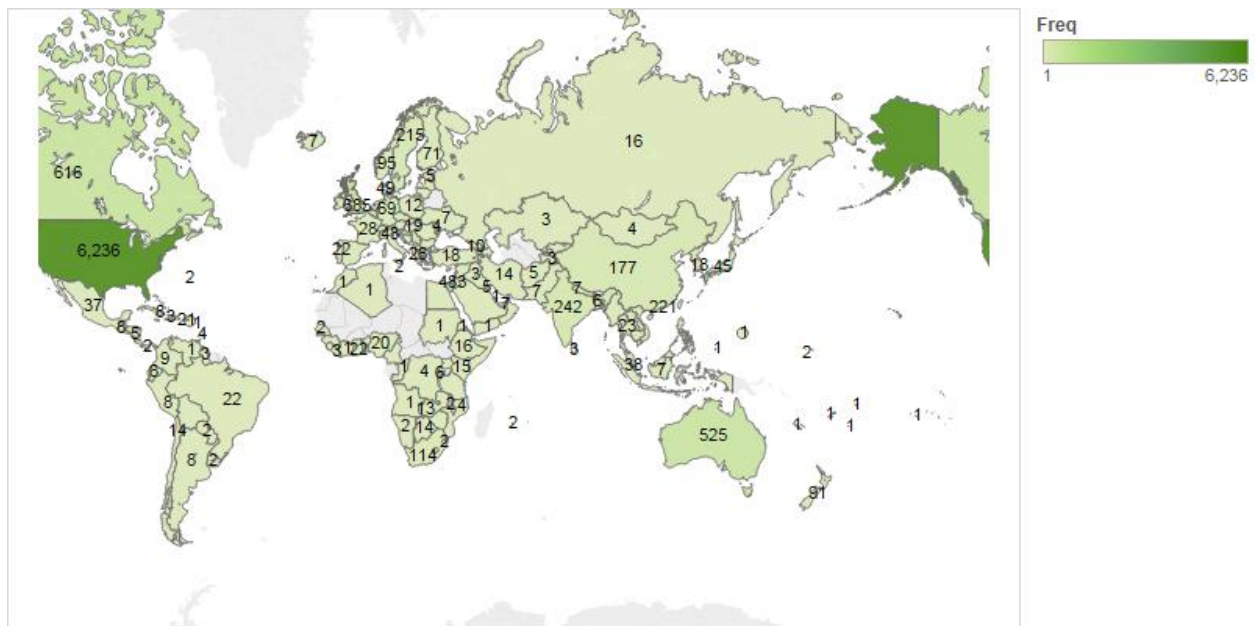## Log Number of Articles by Countries With Highest Scholarly Ouput

Cumulative Number of Article by Countries with Highest Scholarly Output (Excluding the United States)

Countries represents in the social work research
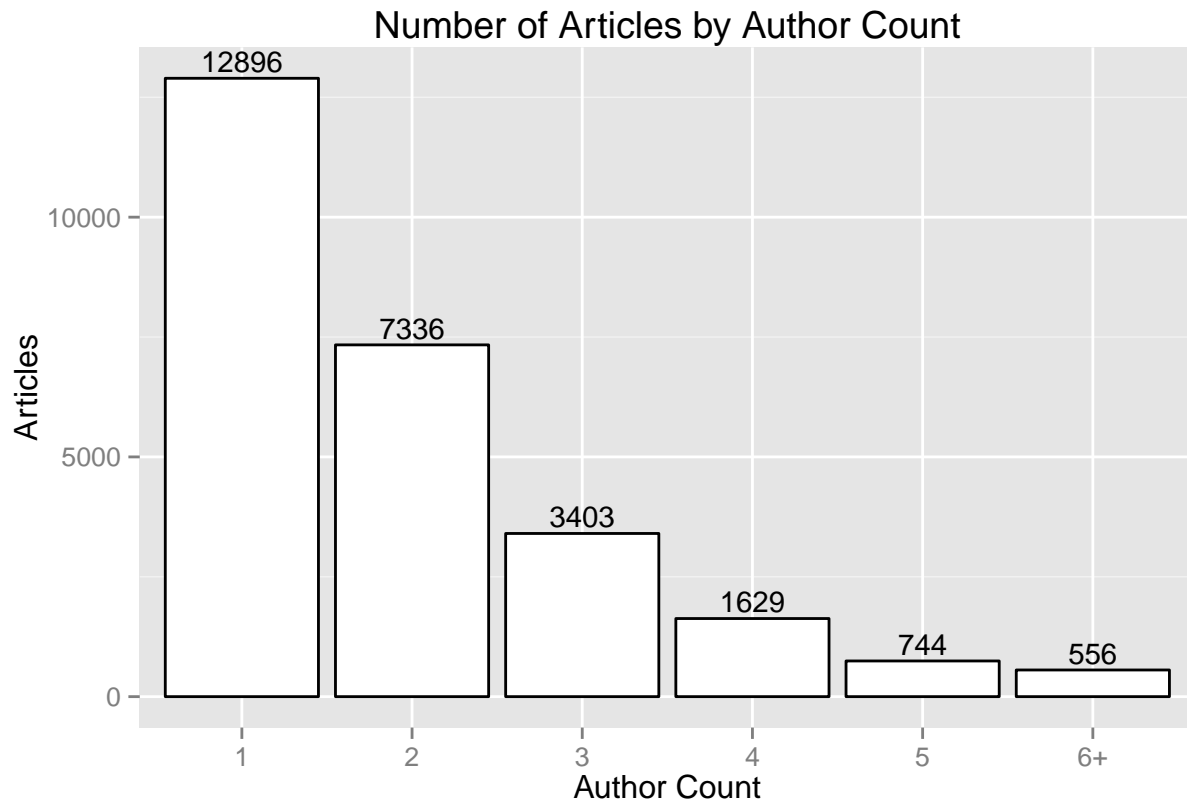
To do: + Obtain definition of LO tag.
+ Determine how many articles had LO tag (note the issue if not included from Social Science Index)

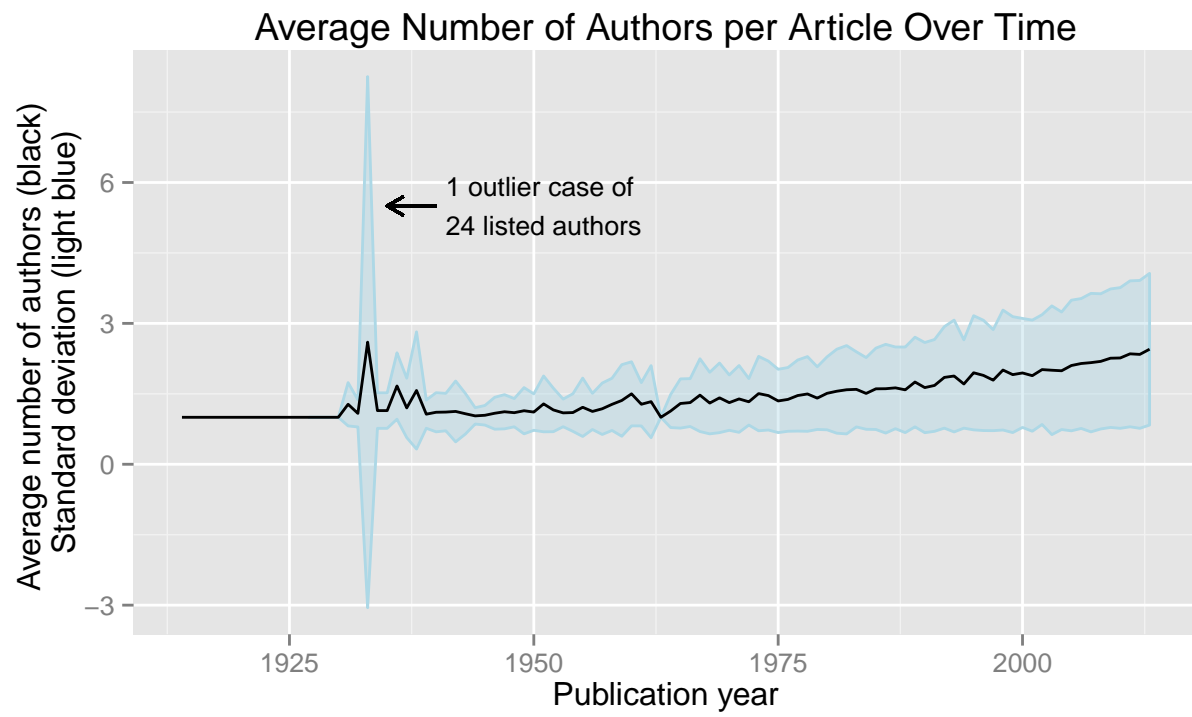**Countries not represented in social work research**

Number of authors

Number of authors over time

This figure shows the average number of authors, along with the standard deviation as the ribbon around the average. Note that there is a possible problem in these data, with a single article listing a huge number. That can be corrected at a later time.

Average Number of Authors per Article Over Time

1 outlier case of
24 listed authors

" '