

# Playground

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## Playground

```
require(gtrendsR)

## Loading required package: gtrendsR

require(ggplot2)

## Loading required package: ggplot2

require(dplyr)

## Loading required package: dplyr

##
## Attaching package: 'dplyr'

## The following objects are masked from 'package:stats':
##
##   filter, lag

## The following objects are masked from 'package:base':
##
##   intersect, setdiff, setequal, union
```

## Making Dataframes

This gives us a master dataframe of search frequencies of “depression” over the past 12 months in the US which relate for sure to mental health. We can take different dataframes using “\$”: see the dataframe for details.

```
trend<-gtrends("depression",c("US"),time="today 12-m",category=437)
trend
```

```
## $interest_over_time
##           date hits keyword geo gprop category
## 1 2016-10-30   77 depression US   web        437
## 2 2016-11-06   65 depression US   web        437
## 3 2016-11-13   70 depression US   web        437
## 4 2016-11-20   58 depression US   web        437
## 5 2016-11-27   77 depression US   web        437
## 6 2016-12-04   80 depression US   web        437
## 7 2016-12-11   73 depression US   web        437
## 8 2016-12-18   59 depression US   web        437
## 9 2016-12-25   66 depression US   web        437
## 10 2017-01-01   68 depression US   web        437
## 11 2017-01-08   71 depression US   web        437
## 12 2017-01-15   75 depression US   web        437
## 13 2017-01-22   84 depression US   web        437
```

```

## 14 2017-01-29    73 depression US    web    437
## 15 2017-02-05    70 depression US    web    437
## 16 2017-02-12    67 depression US    web    437
## 17 2017-02-19    68 depression US    web    437
## 18 2017-02-26    68 depression US    web    437
## 19 2017-03-05    72 depression US    web    437
## 20 2017-03-12    70 depression US    web    437
## 21 2017-03-19    75 depression US    web    437
## 22 2017-03-26    70 depression US    web    437
## 23 2017-04-02    75 depression US    web    437
## 24 2017-04-09    73 depression US    web    437
## 25 2017-04-16    79 depression US    web    437
## 26 2017-04-23    73 depression US    web    437
## 27 2017-04-30    72 depression US    web    437
## 28 2017-05-07    75 depression US    web    437
## 29 2017-05-14    72 depression US    web    437
## 30 2017-05-21    75 depression US    web    437
## 31 2017-05-28    67 depression US    web    437
## 32 2017-06-04    64 depression US    web    437
## 33 2017-06-11    62 depression US    web    437
## 34 2017-06-18    61 depression US    web    437
## 35 2017-06-25    59 depression US    web    437
## 36 2017-07-02    61 depression US    web    437
## 37 2017-07-09    60 depression US    web    437
## 38 2017-07-16    64 depression US    web    437
## 39 2017-07-23    67 depression US    web    437
## 40 2017-07-30    62 depression US    web    437
## 41 2017-08-06    64 depression US    web    437
## 42 2017-08-13    59 depression US    web    437
## 43 2017-08-20   100 depression US    web    437
## 44 2017-08-27    71 depression US    web    437
## 45 2017-09-03    59 depression US    web    437
## 46 2017-09-10    64 depression US    web    437
## 47 2017-09-17    74 depression US    web    437
## 48 2017-09-24    71 depression US    web    437
## 49 2017-10-01    72 depression US    web    437
## 50 2017-10-08    76 depression US    web    437
## 51 2017-10-15    80 depression US    web    437
## 52 2017-10-22    74 depression US    web    437
##
## $interest_by_region
##           location hits    keyword geo gprop
## 1      West Virginia 100 depression US    web
## 2           Vermont   95 depression US    web
## 3    North Dakota   89 depression US    web
## 4         Kentucky   87 depression US    web
## 5           Utah     87 depression US    web
## 6         Indiana   87 depression US    web
## 7    South Dakota   87 depression US    web
## 8           Maine   86 depression US    web
## 9        Minnesota  85 depression US    web
## 10          Michigan  85 depression US    web
## 11    Rhode Island  84 depression US    web
## 12          Wyoming  83 depression US    web

```

## 13	Pennsylvania	83	depression	US	web
## 14	Connecticut	83	depression	US	web
## 15	Nebraska	82	depression	US	web
## 16	Oklahoma	82	depression	US	web
## 17	Delaware	82	depression	US	web
## 18	Iowa	82	depression	US	web
## 19	Arkansas	82	depression	US	web
## 20	Missouri	81	depression	US	web
## 21	Wisconsin	80	depression	US	web
## 22	Montana	80	depression	US	web
## 23	Oregon	80	depression	US	web
## 24	Idaho	80	depression	US	web
## 25	Ohio	80	depression	US	web
## 26	Massachusetts	79	depression	US	web
## 27	New Mexico	78	depression	US	web
## 28	Virginia	77	depression	US	web
## 29	New Hampshire	77	depression	US	web
## 30	Maryland	77	depression	US	web
## 31	Illinois	77	depression	US	web
## 32	Colorado	76	depression	US	web
## 33	Tennessee	76	depression	US	web
## 34	Kansas	75	depression	US	web
## 35	Alaska	75	depression	US	web
## 36	Mississippi	75	depression	US	web
## 37	North Carolina	74	depression	US	web
## 38	Alabama	74	depression	US	web
## 39	Arizona	74	depression	US	web
## 40	Washington	73	depression	US	web
## 41	New Jersey	73	depression	US	web
## 42	Louisiana	73	depression	US	web
## 43	South Carolina	73	depression	US	web
## 44	California	72	depression	US	web
## 45	New York	71	depression	US	web
## 46	Texas	69	depression	US	web
## 47	Georgia	69	depression	US	web
## 48	Hawaii	68	depression	US	web
## 49	District of Columbia	66	depression	US	web
## 50	Nevada	64	depression	US	web
## 51	Florida	64	depression	US	web
##					
##	\$interest_by_dma				
##				location	hits
## 1			Presque Isle	ME	100
## 2			Binghamton	NY	92
## 3			Mankato	MN	87
## 4			Quincy IL-Hannibal	MO-Keokuk	IA 85
## 5			Charleston-Huntington	WV	83
## 6			Peoria-Bloomington	IL	83
## 7			Monterey-Salinas	CA	81
## 8			Fargo-Valley City	ND	81
## 9			Bluefield-Beckley-Oak Hill	WV	80
## 10			Eureka	CA	80
## 11			Clarksburg-Weston	WV	80
## 12			St. Joseph	MO	80

## 13	Lafayette IN	80
## 14	Parkersburg WV	79
## 15	Wilkes Barre-Scranton PA	79
## 16	Traverse City-Cadillac MI	79
## 17	Duluth MN-Superior WI	78
## 18	Erie PA	77
## 19	Wheeling WV-Steubenville OH	77
## 20	Charlottesville VA	77
## 21	Sherman TX-Ada OK	76
## 22	Zanesville OH	76
## 23	Lexington KY	76
## 24	Tri-Cities TN-VA	76
## 25	Bangor ME	76
## 26	Lansing MI	75
## 27	Flint-Saginaw-Bay City MI	75
## 28	Bend OR	75
## 29	Paducah KY-Cape Girardeau MO-Harrisburg-Mount Vernon IL	75
## 30	Cedar Rapids-Waterloo-Iowa City & Dubuque IA	75
## 31	Abilene-Sweetwater TX	75
## 32	Grand Junction-Montrose CO	75
## 33	Terre Haute IN	75
## 34	Little Rock-Pine Bluff AR	75
## 35	Amarillo TX	75
## 36	Madison WI	74
## 37	Rochester MN-Mason City IA-Austin MN	74
## 38	Johnstown-Altoona PA	74
## 39	Idaho Falls-Pocatello ID	74
## 40	Salt Lake City UT	74
## 41	Pittsburgh PA	73
## 42	Chico-Redding CA	73
## 43	Davenport IA-Rock Island-Moline IL	73
## 44	Toledo OH	73
## 45	Rockford IL	73
## 46	Dayton OH	72
## 47	Syracuse NY	72
## 48	Youngstown OH	72
## 49	La Crosse-Eau Claire WI	72
## 50	Roanoke-Lynchburg VA	72
## 51	Richmond-Petersburg VA	72
## 52	Butte-Bozeman MT	71
## 53	Medford-Klamath Falls OR	71
## 54	Watertown NY	71
## 55	Wichita Falls TX & Lawton OK	71
## 56	Springfield-Holyoke MA	71
## 57	Greenville-New Bern-Washington NC	70
## 58	Alpena MI	70
## 59	Champaign & Springfield-Decatur IL	70
## 60	Grand Rapids-Kalamazoo-Battle Creek MI	70
## 61	Indianapolis IN	70
## 62	Rapid City SD	70
## 63	Lima OH	70
## 64	Kansas City MO	70
## 65	Alexandria LA	70
## 66	Jonesboro AR	69

## 67	Topeka KS	69
## 68	Eugene OR	69
## 69	Ottumwa IA-Kirksville MO	69
## 70	Shreveport LA	69
## 71	Monroe LA-El Dorado AR	69
## 72	Hartford & New Haven CT	69
## 73	Minneapolis-St. Paul MN	69
## 74	Buffalo NY	69
## 75	Dothan AL	69
## 76	Marquette MI	69
## 77	Lincoln & Hastings-Kearney NE	69
## 78	Louisville KY	69
## 79	Providence RI-New Bedford MA	69
## 80	Albany-Schenectady-Troy NY	68
## 81	Burlington VT-Plattsburgh NY	68
## 82	Wausau-Rhineland WI	68
## 83	Cheyenne WY-Scottsbluff NE	68
## 84	Ft. Wayne IN	68
## 85	Rochester NY	67
## 86	Lake Charles LA	67
## 87	Elmira NY	67
## 88	South Bend-Elkhart IN	67
## 89	Albuquerque-Santa Fe NM	67
## 90	Fresno-Visalia CA	67
## 91	Oklahoma City OK	67
## 92	Columbus OH	67
## 93	Joplin MO-Pittsburg KS	67
## 94	Knoxville TN	66
## 95	Spokane WA	66
## 96	Norfolk-Portsmouth-Newport News VA	66
## 97	Salisbury MD	66
## 98	Anchorage AK	66
## 99	Harrisburg-Lancaster-Lebanon-York PA	66
## 100	Huntsville-Decatur (Florence) AL	66
## 101	Columbia SC	66
## 102	Boston MA-Manchester NH	66
## 103	Portland-Auburn ME	66
## 104	Philadelphia PA	65
## 105	Utica NY	65
## 106	Fairbanks AK	65
## 107	Laredo TX	65
## 108	Cleveland-Akron (Canton) OH	65
## 109	Cincinnati OH	65
## 110	Tucson (Sierra Vista) AZ	65
## 111	Juneau AK	65
## 112	Milwaukee WI	65
## 113	San Angelo TX	64
## 114	Greensboro-High Point-Winston Salem NC	64
## 115	Portland OR	64
## 116	Evansville IN	64
## 117	El Paso TX	64
## 118	Detroit MI	64
## 119	Helena MT	64
## 120	Boise ID	64

## 121	Bakersfield CA	64
## 122	Tyler-Longview(Lufkin & Nacogdoches) TX	64
## 123	Green Bay-Appleton WI	64
## 124	Chattanooga TN	64
## 125	Denver CO	63
## 126	Gainesville FL	63
## 127	Wichita-Hutchinson KS	63
## 128	Columbus GA	63
## 129	Bowling Green KY	63
## 130	Birmingham AL	63
## 131	St. Louis MO	63
## 132	Raleigh-Durham (Fayetteville) NC	63
## 133	Tallahassee FL-Thomasville GA	62
## 134	Sioux Falls(Mitchell) SD	62
## 135	Springfield MO	62
## 136	Victoria TX	62
## 137	Greenwood-Greenville MS	62
## 138	Billings, MT	62
## 139	Columbia-Jefferson City MO	62
## 140	Missoula MT	62
## 141	Twin Falls ID	62
## 142	North Platte NE	62
## 143	Sioux City IA	62
## 144	Colorado Springs-Pueblo CO	61
## 145	San Antonio TX	61
## 146	Minot-Bismarck-Dickinson(Williston) ND	61
## 147	Hattiesburg-Laurel MS	61
## 148	Des Moines-Ames IA	61
## 149	Ft. Smith-Fayetteville-Springdale-Rogers AR	61
## 150	Baltimore MD	61
## 151	Seattle-Tacoma WA	61
## 152	Chicago IL	60
## 153	Omaha NE	60
## 154	Nashville TN	60
## 155	Lubbock TX	60
## 156	Casper-Riverton WY	60
## 157	Palm Springs CA	60
## 158	Florence-Myrtle Beach SC	60
## 159	Los Angeles CA	60
## 160	Greenville-Spartanburg SC-Asheville NC-Anderson SC	60
## 161	Waco-Temple-Bryan TX	59
## 162	Wilmington NC	59
## 163	New Orleans LA	59
## 164	Phoenix AZ	59
## 165	Biloxi-Gulfport MS	59
## 166	Yakima-Pasco-Richland-Kennewick WA	59
## 167	Charleston SC	59
## 168	Harrisonburg VA	59
## 169	Jackson MS	58
## 170	Austin TX	58
## 171	Lafayette LA	57
## 172	Yuma AZ-El Centro CA	57
## 173	Columbus-Tupelo-West Point MS	57
## 174	Sacramento-Stockton-Modesto CA	57

## 175	Ft. Myers-Naples FL	57
## 176	Augusta GA	57
## 177	New York NY	57
## 178	Charlotte NC	57
## 179	San Diego CA	57
## 180	Baton Rouge LA	56
## 181	Honolulu HI	56
## 182	Savannah GA	56
## 183	Washington DC (Hagerstown MD)	56
## 184	Jacksonville FL	56
## 185	Montgomery (Selma) AL	55
## 186	Corpus Christi TX	55
## 187	Atlanta GA	55
## 188	San Francisco-Oakland-San Jose CA	55
## 189	Mobile AL-Pensacola (Ft. Walton Beach) FL	55
## 190	Odessa-Midland TX	55
## 191	Macon GA	54
## 192	West Palm Beach-Ft. Pierce FL	54
## 193	Tulsa OK	54
## 194	Dallas-Ft. Worth TX	54
## 195	Tampa-St. Petersburg (Sarasota) FL	54
## 196	Jackson TN	54
## 197	Houston TX	53
## 198	Albany GA	53
## 199	Orlando-Daytona Beach-Melbourne FL	53
## 200	Reno NV	53
## 201	Las Vegas NV	51
## 202	Memphis TN	50
## 203	Santa Barbara-Santa Maria-San Luis Obispo CA	49
## 204	Great Falls MT	48
## 205	Beaumont-Port Arthur TX	47
## 206	Panama City FL	45
## 207	Miami-Ft. Lauderdale FL	45
## 208	Harlingen-Weslaco-Brownsville-McAllen TX	44
## 209	Meridian MS	38
##	keyword geo gprop	
## 1	depression US web	
## 2	depression US web	
## 3	depression US web	
## 4	depression US web	
## 5	depression US web	
## 6	depression US web	
## 7	depression US web	
## 8	depression US web	
## 9	depression US web	
## 10	depression US web	
## 11	depression US web	
## 12	depression US web	
## 13	depression US web	
## 14	depression US web	
## 15	depression US web	
## 16	depression US web	
## 17	depression US web	
## 18	depression US web	

##	19	depression	US	web
##	20	depression	US	web
##	21	depression	US	web
##	22	depression	US	web
##	23	depression	US	web
##	24	depression	US	web
##	25	depression	US	web
##	26	depression	US	web
##	27	depression	US	web
##	28	depression	US	web
##	29	depression	US	web
##	30	depression	US	web
##	31	depression	US	web
##	32	depression	US	web
##	33	depression	US	web
##	34	depression	US	web
##	35	depression	US	web
##	36	depression	US	web
##	37	depression	US	web
##	38	depression	US	web
##	39	depression	US	web
##	40	depression	US	web
##	41	depression	US	web
##	42	depression	US	web
##	43	depression	US	web
##	44	depression	US	web
##	45	depression	US	web
##	46	depression	US	web
##	47	depression	US	web
##	48	depression	US	web
##	49	depression	US	web
##	50	depression	US	web
##	51	depression	US	web
##	52	depression	US	web
##	53	depression	US	web
##	54	depression	US	web
##	55	depression	US	web
##	56	depression	US	web
##	57	depression	US	web
##	58	depression	US	web
##	59	depression	US	web
##	60	depression	US	web
##	61	depression	US	web
##	62	depression	US	web
##	63	depression	US	web
##	64	depression	US	web
##	65	depression	US	web
##	66	depression	US	web
##	67	depression	US	web
##	68	depression	US	web
##	69	depression	US	web
##	70	depression	US	web
##	71	depression	US	web
##	72	depression	US	web



##	73	depression	US	web
##	74	depression	US	web
##	75	depression	US	web
##	76	depression	US	web
##	77	depression	US	web
##	78	depression	US	web
##	79	depression	US	web
##	80	depression	US	web
##	81	depression	US	web
##	82	depression	US	web
##	83	depression	US	web
##	84	depression	US	web
##	85	depression	US	web
##	86	depression	US	web
##	87	depression	US	web
##	88	depression	US	web
##	89	depression	US	web
##	90	depression	US	web
##	91	depression	US	web
##	92	depression	US	web
##	93	depression	US	web
##	94	depression	US	web
##	95	depression	US	web
##	96	depression	US	web
##	97	depression	US	web
##	98	depression	US	web
##	99	depression	US	web
##	100	depression	US	web
##	101	depression	US	web
##	102	depression	US	web
##	103	depression	US	web
##	104	depression	US	web
##	105	depression	US	web
##	106	depression	US	web
##	107	depression	US	web
##	108	depression	US	web
##	109	depression	US	web
##	110	depression	US	web
##	111	depression	US	web
##	112	depression	US	web
##	113	depression	US	web
##	114	depression	US	web
##	115	depression	US	web
##	116	depression	US	web
##	117	depression	US	web
##	118	depression	US	web
##	119	depression	US	web
##	120	depression	US	web
##	121	depression	US	web
##	122	depression	US	web
##	123	depression	US	web
##	124	depression	US	web
##	125	depression	US	web
##	126	depression	US	web

##	127	depression	US	web
##	128	depression	US	web
##	129	depression	US	web
##	130	depression	US	web
##	131	depression	US	web
##	132	depression	US	web
##	133	depression	US	web
##	134	depression	US	web
##	135	depression	US	web
##	136	depression	US	web
##	137	depression	US	web
##	138	depression	US	web
##	139	depression	US	web
##	140	depression	US	web
##	141	depression	US	web
##	142	depression	US	web
##	143	depression	US	web
##	144	depression	US	web
##	145	depression	US	web
##	146	depression	US	web
##	147	depression	US	web
##	148	depression	US	web
##	149	depression	US	web
##	150	depression	US	web
##	151	depression	US	web
##	152	depression	US	web
##	153	depression	US	web
##	154	depression	US	web
##	155	depression	US	web
##	156	depression	US	web
##	157	depression	US	web
##	158	depression	US	web
##	159	depression	US	web
##	160	depression	US	web
##	161	depression	US	web
##	162	depression	US	web
##	163	depression	US	web
##	164	depression	US	web
##	165	depression	US	web
##	166	depression	US	web
##	167	depression	US	web
##	168	depression	US	web
##	169	depression	US	web
##	170	depression	US	web
##	171	depression	US	web
##	172	depression	US	web
##	173	depression	US	web
##	174	depression	US	web
##	175	depression	US	web
##	176	depression	US	web
##	177	depression	US	web
##	178	depression	US	web
##	179	depression	US	web
##	180	depression	US	web

```

## 181 depression US web
## 182 depression US web
## 183 depression US web
## 184 depression US web
## 185 depression US web
## 186 depression US web
## 187 depression US web
## 188 depression US web
## 189 depression US web
## 190 depression US web
## 191 depression US web
## 192 depression US web
## 193 depression US web
## 194 depression US web
## 195 depression US web
## 196 depression US web
## 197 depression US web
## 198 depression US web
## 199 depression US web
## 200 depression US web
## 201 depression US web
## 202 depression US web
## 203 depression US web
## 204 depression US web
## 205 depression US web
## 206 depression US web
## 207 depression US web
## 208 depression US web
## 209 depression US web
##
## $interest_by_city
##      location hits keyword geo gprop
## 1   Minneapolis 100 depression US web
## 2     Portland  98 depression US web
## 3   Louisville  98 depression US web
## 4      Boston  95 depression US web
## 5   Pittsburgh  95 depression US web
## 6    St. Louis  94 depression US web
## 7    Columbus  93 depression US web
## 8      Madison  92 depression US web
## 9   Indianapolis 92 depression US web
## 10   Baltimore 92 depression US web
## 11 Philadelphia 91 depression US web
## 12   Kansas City 91 depression US web
## 13   Nashville  90 depression US web
## 14    Detroit  89 depression US web
## 15 Cincinnati  88 depression US web
## 16    Raleigh  87 depression US web
## 17 San Antonio  86 depression US web
## 18 Los Angeles  85 depression US web
## 19 Sacramento  85 depression US web
## 20    Phoenix  83 depression US web
## 21   San Diego  83 depression US web
## 22 Oklahoma City 82 depression US web

```

```
## 23      Chicago      82 depression US    web
## 24      Washington   81 depression US    web
## 25        Denver     80 depression US    web
## 26      Fort Worth   80 depression US    web
## 27      Charlotte    80 depression US    web
## 28        New York   79 depression US    web
## 29        Dallas     79 depression US    web
## 30        San Jose   79 depression US    web
## 31      Jacksonville  78 depression US    web
## 32        Seattle    78 depression US    web
## 33        Atlanta    78 depression US    web
## 34        Austin     76 depression US    web
## 35        Houston    74 depression US    web
## 36      San Francisco 74 depression US    web
## 37        Orlando    73 depression US    web
## 38        Miami      67 depression US    web
##
## $related_topics
## NULL
##
## $related_queries
##      subject related_queries      value geo    keyword
## 1.top      100             top  google depression test  US depression
## 2.top       20             top  hypnosis for depression US depression
## 3.top        5             top  3 minute depression test  US depression
## 1.rising +1,050%      rising 3 minute depression test  US depression
## 2.rising  +400%      rising  google depression test  US depression
## 3.rising  +50%      rising  hypnosis for depression  US depression
##      category
## 1.top      437
## 2.top      437
## 3.top      437
## 1.rising   437
## 2.rising   437
## 3.rising   437
##
## attr(,"class")
## [1] "gtrends" "list"
```

For example, this gives us search frequencies by cities in the U.S.

```
cities_dep<-gtrends("depression",c("US"),time="today 12-m",category=437)$interest_by_city
cities_dep
```

```
##      location hits    keyword geo gprop
## 1      Minneapolis 100 depression US    web
## 2        Portland  98 depression US    web
## 3      Louisville  98 depression US    web
## 4         Boston   95 depression US    web
## 5      Pittsburgh  95 depression US    web
## 6        St. Louis  94 depression US    web
## 7        Columbus  93 depression US    web
## 8         Madison  92 depression US    web
## 9      Indianapolis 92 depression US    web
## 10       Baltimore 92 depression US    web
```

## 11	Philadelphia	91	depression	US	web
## 12	Kansas City	91	depression	US	web
## 13	Nashville	90	depression	US	web
## 14	Detroit	89	depression	US	web
## 15	Cincinnati	88	depression	US	web
## 16	Raleigh	87	depression	US	web
## 17	San Antonio	86	depression	US	web
## 18	Los Angeles	85	depression	US	web
## 19	Sacramento	85	depression	US	web
## 20	Phoenix	83	depression	US	web
## 21	San Diego	83	depression	US	web
## 22	Oklahoma City	82	depression	US	web
## 23	Chicago	82	depression	US	web
## 24	Washington	81	depression	US	web
## 25	Denver	80	depression	US	web
## 26	Fort Worth	80	depression	US	web
## 27	Charlotte	80	depression	US	web
## 28	New York	79	depression	US	web
## 29	Dallas	79	depression	US	web
## 30	San Jose	79	depression	US	web
## 31	Jacksonville	78	depression	US	web
## 32	Seattle	78	depression	US	web
## 33	Atlanta	78	depression	US	web
## 34	Austin	76	depression	US	web
## 35	Houston	74	depression	US	web
## 36	San Francisco	74	depression	US	web
## 37	Orlando	73	depression	US	web
## 38	Miami	67	depression	US	web

This plots cities\_dep.

```
ggplot(cities_dep,aes(x=reorder(location,hits),y=hits))+geom_bar(stat="identity")+theme(axis.text.x = e
```

