

SBJ/October 16-22, 2017/Opinion

Sports diaspora: A national survey of NFL fan dispersion

Published October 2, 2017, Page 26



Sport fan diaspora refers to the primarily voluntary dispersion of sport fans to other geographical locations, due to better economic (e.g., job acceptance) or educational (e.g., attending college) opportunities, lifecycle changes (e.g., marriage, kids, retirement), healthrelated reasons (e.g., to seek medical care or a change in climate), international migration, etc. Every year in the U.S., about 40 million people move. Nearly 75 percent of the U.S. population moves once every five years (U.S. Census Bureau).

WAYNE S. **DESARBO**



Although people move away from their home towns, many retain their values, traditions, identity and sports preferences. This latter aspect can be directed toward a particular sport, conference or (more likely) team. We often witness evidence of out-of-market fans at sporting events, where there is a mixture of fans attending wearing apparel of each of the two teams competing.

STADLER

"Fanatics (the online store that sells licensed apparel for the NFL, NBA, NCAA, MLB and NHL) has determined that the percentage of 'displaced fans' is significant. They've identified that 74 percent of NFL fans, 69 percent of NBA fans, 67 percent of NCAA fans, 63 percent of MLB fans and 54 percent of NHL fans root for teams that do not play in the state where they reside. Think about that: More than half of every major North American sports team's fans are not local." (Fain, SportsBusiness Journal, Feb. 4, 2013).



Today, we live in a world that is more socially and technologically connected than ever before, enabling out-of-market fans to keep in touch with their teams no matter where they live. Large flat-screen TVs, the internet, social media, cable and satellite TV, smartphones/apps, rising ticket prices, etc. have not only changed the nature of fandom, but also have helped bring distant fans into the fold.

SUNGHOON KIM

The primary goal of our research was to produce quantitative information and graphical depictions that represent the extent of sport fan diaspora for the fans of the 32 NFL teams. We conducted a two-wave study with a national sample on Amazon's Mechanical Turk that examined team preferences and locations for 1,568 sports fans for the 2015 and 2016 NFL seasons. We

http://www.sportsbusinessdaily.com/Journal/Issues/2017/10/16/Opinion/Diaspora.aspx

constructed a sport fan diaspora map based on the estimated distance between each fan's favorite NFL team (football stadium) and the location where the fan now lives (using five-digit zip codes).

Each of the 1,568 respondents in the map below is represented by a line segment that signifies the distance between the fan's favorite team (placed at the origin) and where they live now. The two dimensions represent East-West and North-South directions. We see both a wide directional dispersion of fans, as well as a sizable distance dispersion. To summarize these distances for the NFL teams, the median distance a fan lives from the stadium of their favorite team is 164.93 miles away. (The mean or average distance is 511.47 miles away, indicating the prevalence of large distances in the data.) As a comparison, the driving distance between New York City and Chicago is about 800 miles, whereas the distance between New York City and Los Angeles is about 2,800 miles. The concentric circles represent distance from the origin of the graph (i.e., the location of their favorite team). The blue, green and red circles represent the 25 percent, 50 percent and 75 percent interquartile ranges, respectively. As shown, over 25 percent of NFL fans live more than 775 miles away from their favorite team (outside of the green circle)! This data is consistent with Vivid Sports' estimate that the average distance traveled to attend Super Bowl 50 in 2016 was about 1,300 miles.

The table on the right shows fan diaspora distance means, standard deviations and medians — in miles — for fans of each of the various NFL teams.

Based on an analysis of variance F-test, the 32 teams exhibit significantly different mean distances (p < 0.001). Note the rather large standard deviations (which indicate larger fan dispersions) and how they also vary by team. The differences between the mean and median also indicate the presence of very large distances in the data as the mean tends to be drawn in the direction of larger values more so than the median. The main takeaway is clear: Teams must rethink the way they understand and target fans, recognizing their fans' dispersion patterns. Note that these types of analyses can be conducted for any team, league or sport.□

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Team ▼	Mean Dist.	Std. Dev.	Median Dist.
Total Sample-All Teams	511.47	686.88	164.93
Arizona Cardinals	651.67	951.28	100.89
Atlanta Falcons	355.25	536.74	120.7
Baltimore Ravens	380.72	706.45	44.45
Buffalo Bills	670.5	770.53	384.79
Carolina Panthers	409.99	793.62	126.2
Chicago Bears	451.1	561.35	127.05
Cincinnati Bengals	327.09	572.75	61.68
Cleveland Browns	413.28	661.27	113.54
Dallas Cowboys	642.73	703.74	453.82
Denver Broncos	580.43	530.15	548.27
Detroit Lions	263.73	458.82	90.92
Green Bay Packers	686.14	583.71	664.86
Houston Texans	144.85	329.64	24.77
Indianapolis Colts	220.21	395.65	99.49
Jacksonville Jaguars	152.76	238.63	54.11
Kansas City Chiefs	302.1	481.63	117.94
Los Angeles Rams*	477.65	838.43	22.62
Miami Dolphins	584.78	532.77	547.98
Minnesota Vikings	474.70	506.79	207.53
New England Patriots	708.25	837.46	331.15

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New Orleans Saints	360.35	406.1	267.36
New York Giants	435.29	596.56	133.26
New York Jets	432.1	710.65	63.38
Oakland Raiders	773.36	877.05	395.04
Philadelphia Eagles	456.72	727.01	66.44
Pittsburgh Steelers	465.97	641.08	185.94
San Diego Chargers	367.28	684.40	26.14
San Francisco 49ers	629.72	873.97	104.82
Seattle Seahawks	703.65	897.35	182.63
St. Louis Rams*	477.29	585.34	222.55
Tampa Bay Buccaneers	449.97	646.17	86.22
Tennessee Titans	272.36	564.11	101.99
Washington Redskins	327.53	535.98	53.39

^{*}Note that the Rams played in St. Louis during the 2015 season and in Los Angeles during the 2016 season.

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