

Super Bowl Team Tones: Analyzing Patriots and Seahawks Blogospheres

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Abstract

Situated within the media fever before and after Super Bowl XLIX, 269 original blog posts and 91 sets of appended comments from websites devoted to the Seattle Seahawks and New England Patriots are analyzed for significant differences using Diction 7.0, a common word-counting program that measures tone in dozens of ways. More than a dozen variations are found within the blog messages. Some of these are present across all messages, while others existed only before the game was played or arose only after New England's dramatic win in the closing moments of Super Bowl XLIX. Post-game variations include greater optimism in the tone of New England Patriots bloggers and greater hardship and denial in the tone of Seattle Seahawks bloggers. Results are discussed from the perspective of social identity theory, with the conclusion that variations in message tone appear to approximate broad narratives about the two organizations, their fan bases, and the game itself.

Keywords: Super Bowl, New England Patriots, Seattle Seahawks, football, sports, blogs, Diction 7.0, social identity theory

Introduction

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Online discussions of Super Bowl XLIX can be analyzed for clues to the personality of the fan bases of the New England Patriots and the Seattle Seahawks, the two teams that competed in the NFL's championship football game. The conclusion of this game was one of the most dramatic in Super Bowl history (Samuel, February 2, 2015), with the Patriots winning on a goal-line interception when most Seahawks fans had assumed they were moments from a celebration. Analysis of blog messages from both before and after the game by a blend of fans and media professionals also shows evidence of the effects of this instant turn of fortunes.

The present study seeks to examine how Patriots and Seahawks writers expressed their opinions about the

Super Bowl on some of the Internet's most popular blogs dedicated to these two teams. The study examines the tone not only of blog posts, but also of the comments appended to them, to see whether Patriots and Seahawks writers elicited differently toned responses. These analyses are made with the use of Diction 7.0, a widely applied software package that offers a quantitative method for assessing the tone of any written message by searching for and measuring dozens of semantic features. It would be simple to tally whether writers on Seahawks blogs wrote more favorably about that team, and writers on Patriots blogs more favorably about that team, but this study attempts to go deeper and examines what specific differences can be seen in the tone of the messages each used to discuss the teams—not what they wrote, but the way they wrote.

Literature review

Fan bases of professional sports teams clearly identify themselves as easily delineated communities, paving the way for the use of social identity theory as a perspective from which to examine the Super Bowl blogs. SIT is a well-established theory that makes use of the social psychology conviction that while individual behavior may be wrapped up in a search for personal meaning, this search often happens within group settings (Tajfel & Turner, 1979). When placed in a shared setting, therefore, people who expect to achieve satisfactions from the association easily develop feelings of mutual attraction and hence become closely identified as group members (Turner et al., 1987). Furthermore, these individuals making group connections prefer to view themselves as part of a group that represents the most personally advantageous association they could have made. In the case of sports teams, for instance, fans want to believe they have selected a team that will make them proud of the association. They gain individual self-esteem from group esteem and will therefore work harder to see their chosen group succeed (Derks, van Laar, & Ellemers, 2009). It's still about personal self-esteem, but achieved through the group: "Social identity and intergroup behavior is guided by the pursuit of evaluative positive social identity through positive intergroup distinctiveness, which in turn is motivated by the need for positive self-esteem" (Hogg & Terry, 2000, p. 124).

Therefore, individuals tend to enhance their own group to increase self-worth and inherently seem to believe that pushing other groups down elevates their own group (Platow et al., 1999). One way to increase individual gratification is to maximize the distance between the "in" (or self-identified) and "out" groups (Tajfel & Turner, 1979). In some cases, outright discrimination or prejudice can result from such social identification, as entire sectors of a society are judged as an out-group based on, for example, ethnicity (Tajfel & Turner, 1979). Yet a clear marker such as skin color is not required for SIT effects to kick in: Early experiments (Tajfel, 1970, 1981, 1982; Tajfel & Turner, 1979) suggest that group identification and preference can be triggered even by something as minimal as giving a common but meaningless label to a subset of a group. The salience and strength of this self-identification with a group is seen to rise and fall depending on external pressures (Huddy, 2001).

A broad stream of SIT research has found that individual and group identities are created, manipulated, and used in online communication, where users often can shield their personal information. Internet participation breaks participants into groups along lines of gender, age, race, and differentiations in

the amount and intensity of their online use (King, 2001). And rather than interfering with the processes of SIT, the visual anonymity possible online has been found to actually increase a participant's attraction to and positive stereotyping of a group (Lea, Spears, & de Groot, 2001). Consequent research suggests that this tugging toward a group can even overcome individual personality traits (Lee, 2006). Thus, in a social group such as a Seahawks or Patriots blog, the fact that those in the audience have little face-to-face knowledge of writers and commenters may actually draw them closer together. In fact, the inner forces at work in social identity theory can be read almost as a direct description of the camaraderie and competition of sports fans, whether they root for a powerhouse or an underdog and whether they physically attend games or never step foot in the stadium: Group identification and favoritism tend to occur even in the absence of strong leadership or member interdependency, interaction, or cohesion. Identification is associated with groups that are distinctive, prestigious, and in competition with, or at least aware of, other groups, although it can be fostered by even random assignment to a group. Identification can persist tenaciously even when group affiliation is personally painful, other members are personally disliked, and group failure is likely. (Ashforth & Mael, 1989, p.34)

SIT has been used in a broad body of research studying sports teams and their broader fan communities. This social bonding around sports teams has been suggested to be a powerful enough force that allegiance to the NFL's Saints helped lift the inhabitants of New Orleans out of the morass of Hurricane Katrina (Burns, 2014). SIT has been shown to contribute to a powerful hegemony in which even a star athlete can be painted by Seattle football fans as a "wayward child" whose individual concerns for his health are hurting the overall Seahawks community (Bishop, 2005). SIT also has been found to engender the greatest level of trust when highly identified fans are talking about fellow fans; the lowest when discussing rival fans (Jensen, 2014; Earnhardt, Haridakis & Gugenberg, 2012). Fans' self-esteem and the strength of their identification with their team as a group has been shown to be positively correlated to their consumption of team-related media (Phua, 2008). This is consistent with the finding that social-media use by fans increases their passion, hope, esteem, and camaraderie for the team community (Stavros, Meng, Westberg & Farrelly, 2014). Even when their beloved team is not in competition, the term "glory out of reflected failure" has been found to be an accurate description of fans pulled closer together by the shared pleasure in seeing a rival team lose—particularly to an underdog (Havard, 2014, p. 250). Similarly, fans of one team were found to be less likely even to drink a brand of beer that was a sponsor for a competing team (Bergkvist, 2012). Findings such as this one serve to highlight the increasing complexity of the communities that grow up around sports teams. Beyond the simplicity of "simple audiences" or "mass audiences," what swirls around football today is more complex, a "diffuse audience," described thus: "Those who watch live and those who watch at home; those who cheer for their favorite team, those who write about them, and those who merely watch the occasional game are all part of a diffused audience who together constitute the system of sport as entertainment" (Mehus, 2010, p. 902). So, then, with the social forces of SIT drawing these sprawling communities into even closer identification as the pressure of the NFL playoffs grows and the

stakes become higher, it is to be expected that the blend of professional and amateur writers blogging about their New England and Seattle teams before and after the championship game will provide clues within the tone of their messages for the emotions and personalities of their online team communities.

Thus, the current study of Super Bowl--related online messages will attempt to shed light on three main questions:

RQ1: In what ways if any does the tone of messages created by New England Patriots authors differ from the tone of messages created by Seattle Seahawks authors as they comment on this major current event?

RQ2: In what ways if any does the tone of messages created by Patriots authors and Seahawks authors change after the outcome of the Super Bowl was known?

RQ3: In what ways if any does the tone of reader responses to Patriots authors differ from the tone of reader responses to Seahawk authors?

Methodology

Diction 7.0 offers a quantitative look at what is usually a more nuanced, qualitative undertaking: understanding the tone of a mass media message that builds from the connotations of each word selected and positioned by an author. Diction software offers a scientific method for quickly measuring the tone of a written message by searching for and measuring dozens of semantic features. The software employs non--overlapping, internal dictionaries that define the conceptual categories. The software computes quantitative scores for these categories based on the content properties of the text. Moreover, scores for these categories are combined and subjected to mathematical functions to yield composite scores for some additional variables of interest, including the five “Master Variables” of activity, optimism, certainty, realism, and commonality. It is a versatile tool. Scholars have employed Diction to examine topics across numerous communication contexts (Young & Soroka, 2012). A recent example is *Political Tone: How Leaders Speak and Why* (Hart, Childers, & Lind, 2013), co-authored by one of the developers of Diction. *Political Tone* uses the word--counting software to reveal the overall tone of contemporary political messages, asserting that tone consists of “(1) individual word choices that (2) cumulatively build up (3) to produce patterned expectations (4) telling an audience something important (5) about the author’s outlook on things” (p. 12) and using that template to calculate and differentiate between what constitutes, for instance, an overall “Democratic” tone or “Republican” tone (p. 71). Other examples of researchers applying Diction include analyses of the tone of campaign speeches by winning U.S. presidential candidates (Lowry & Naser, 2010), of differences between the rhetoric at local and national Promise Keepers events (Eidenmuller, 2002), of media coverage of the 9/11 terror attacks (Cho et al., 2003), of the comparative optimism of governors and presidents (Crew and Lewis, 2011), of the use of power in the speeches of Adolf Hitler and Martin Luther King Jr. (Robinson & Topping, 2012), and of the messages created by white and black bloggers commenting

on protests in Ferguson, Missouri (Mendenhall, 2014). These studies and others demonstrate the broad acceptance of Diction within the communication discipline as an appropriate tool for comparison of tone within categories of messages such as those to be gathered from popular blog sites for the current study.

At a small southwestern university nearly equidistant from Boston and Seattle, 31 students in a beginning mass media course worked in three-person teams to collect Super Bowl-related blog posts from one week before and one week after the February 1 game. A team was assigned to each of the five Seahawks sites and five Patriots sites with the highest placement in two simple Google searches. Patriots sites included in the study are: patsfans.com, patspulpit.com, musketfire.com, patriotsgab.com, and nepatriotslife.com.

Seahawks sites included in the study are: fieldgulls.com, 12thmanrising.com, seahawks.net, seahawknationblog.com, and hawkblogger.com. Although some of the sites employ professional writers rather than simply allowing fans to provide all content, an effort was made to avoid collecting data from national sports websites that cover more than just a single team. Posts accepted for the sample were defined as consisting of at least 100 words and having been originally published during the seven days before or the seven days after February 1. This resulted in a sample frame of 269 original blog posts – 178 from Patriots sites and 91 from Seahawks sites. Also collected were 91 sets of up to the first 20 comments appended to these blog posts, including 30 from Patriots posts and 61 from Seahawks posts. The first 20 comments on a post were considered as a single message to avoid the inability to individually assess the many brief comments. Each of the 360 collected files was coded by date and site of origin, analyzed using Diction 7.0, and transferred to SPSS.

Results

To reveal differences within the 360 messages as described in the three research questions, one-way ANOVAs were used to compare mean scores for each of the 35 Diction variables and the five Diction Master Variables that are calculated using combinations of those variables. Of those five Master Variables, the present study will cite significant differences along Certainty and Optimism. Certainty is calculated by concatenating the Diction variables of tenacity, leveling, collectives, and insistence, then subtracting the variables of numerical terms, ambivalence, self-reference, and variety; Optimism is calculated by concatenating the Diction variables of praise, satisfaction, and inspiration, then

Table 1: How the tone of messages vary by team

Scores Higher Overall	
Patriots	Seahawks
Accomplishment	Ambivalence
Certainty	cognition
Familiarity	Cooperation
	Denial

	Hardship
	Familiarity
	Present concern
	Self reference
Patroits	Sea hawks
Accomplishment	Ambivalence
Aggression	cognition
Certainty	Diversity
Familiarity	Familiarity
	Rapport
	Self reference
Scores After Higher Game	
Patroits	Sea hawks
Optimism	Cooperation
	Denial
	Exclusion
	Hardship

subtracting the variables of blame, hardship, and denial (Hart & Carroll, 2013). Significant findings of this analysis are briefly summarized in Table 1. Answering RQ1 in the affirmative, significant differences between messages from New England Patriots blogs and Seattle Seahawks blogs were found in 11 variables at the level of $p \leq .05$, as displayed in Table 2. The measured variable was significantly higher for overall Patriots messages in these three instances: accomplishment ($p = .05$), certainty ($p = .036$), and familiarity ($p = .001$). The measured variable was significantly higher for overall Seahawks messages in these eight instances: ambivalence ($p = .003$), cognition ($p = .021$), cooperation ($p = .029$), denial ($p = .009$), hardship ($p = .002$), inspiration ($p = .005$), present concern ($p = .046$), and self--reference ($p = .001$). Answering RQ2 in the affirmative as displayed in Tables 3 and 4, it was found that once the Super Bowl had been played, shifts occurred in which variables were significantly higher in Patriots or Seahawks messages. That is, before the game, both communities exhibited different tones in their messages than after it.

In Patriots messages published during the seven days before the game, as displayed in Table 3, the measured variable was significantly higher in these four instances: accomplishment ($p = .045$), aggression ($p = .027$), certainty ($p = .004$), and familiarity ($p < .001$). In Seahawks messages published during the seven days before the game, as displayed in Table 3, the measured variable was significantly higher in these six instances: ambivalence ($p = .02$), cognition ($p = .028$), diversity ($p = .006$), inspiration ($p = .001$), rapport ($p = .021$), and self--reference ($p < .001$). In Patriots messages published during the seven days after the game, as displayed in Table 4, the measured variable was significantly higher only in the instance of optimism ($p = .023$). In Seahawks messages published during the seven days after the game, as displayed in Table 4, the measured variable was significantly higher in these four instances: cooperation ($p = .024$), denial ($p = .009$), exclusion ($p = .05$), and hardship ($p = .005$). In no case did a specific variable that was significantly higher in one team's messages before the game become significantly higher in the other team's messages after the game.

Answering RQ3 in the affirmative—although comments were appended to only about a third of the original blog posts in the sample set—those comments were found to be significantly different in tone from the original posts along four variables. In every instance, this meant that one team's original messages were significantly higher than the other team's, but that the distinction disappeared when the appended comments were compared. Along the variables of cooperation ($p < .001$) and hardship ($p = .005$), Seahawks original posts were significantly higher than Patriots original posts, although in neither case was a significant difference seen along those variables between comments associated with the posts. Along the variables of familiarity ($p = .033$) and accomplishment ($p = .05$), Patriots original posts were significantly higher than Seahawks original posts, although in neither case was a significant difference seen along those variables between comments associated with the posts.

Discussion

Working backward, think of this computer---driven Diction analysis of variations in tone between New England Patriot blog messages and Seattle Seahawks blog messages as a straightforward description of the two contending football organizations and the tenor of their relationships with their fan bases as they approached the end of this NFL season and dealt with the climactic result of Super Bowl XLIX. From that viewpoint, it has immense external validity. That viewpoint presents a picture of the Patriots as feeling a sense of accomplishment, familiarity, and certainty heading into the game, perhaps because they already had five Super Bowl victories with quarterback Tom Brady and coach Bill Belichick. The Patriots community is showing signs of aggression to go with this confidence, perhaps because it has been the target of pointed jibes over a scandal involving underinflated footballs in an earlier playoff game (Battista, 2015). Their opponents, the defending champion Seahawks, are more of an ambivalent mixture: an upstart expansion team that won unexpectedly a year earlier and looks thoughtfully inward (self- reference, cognition). A vigorous “12th Man” campaign has inspired the fans, creating a high sense of rapport amid their diversity (Battista, 2015). Each team was the top seed in its respective conference, suggesting an evenly matched Super Bowl. The game lived up to that expectation, with an inspired Seattle team controlling the first half, only to see the accomplished Patriots come back in the second, then snatch victory with two minutes left by means of an aggressive interception at the goal- line (ESPN, 2015). The Patriots won 28---24, and how could the tone of their bloggers over the next week be anything but optimistic? The Seahawks came so close, and their bloggers took on a tone of denial, exclusion, and hardship plus cooperation that could be related to an inability to suggest any excuse for the Patriots’ reversal of fortunes . or to a 12th- man determination to stick together no matter what. The exact causes of these shifting tones are difficult to pinpoint, but mostly the results of the Diction analysis fit right in with the reality of this championship struggle between two tightly affiliated groups. It is just what SIT would have expected in this situation.

The current study appears to provide a quantitative approximation of the two football communities as they were seen qualitatively by a larger public. However, it remains for future researchers to attempt to unscramble the online media communities that grow up around today’s sports teams. Specifically, more attention needs to be paid to the source of the shifting tone: does it spring from paid reporters/bloggers who try to retain at least some of their identity as objective professional voices, or from amateurs who are not ashamed to take their social identity from the team they so love?

Table 2: ANOVAs of Diction variables that differ significantly by team across all messages

Accomplishment: *Patriots (M = 7.42) higher than Seahawks (M = 6.55) at the .05 level*

Source	Type III Sum	df	Mean	F	Sig.	Partial Eta
	of Squares		Square			Squared

Corrected Model	66.735 ^a	1	66.735	3.875	.050	.011
Intercept	17119.459	1	17119.459	994.120	.000	.735
Team	66.735	1	66.735	3.875	.050	.011
Error	6165.015	358	17.221			
Total	24118.165	360				
Corrected Total	6231.750	359				

R Squared = .011 (Adjusted R Squared = .008)

Ambivalence: *Seahawks (M = 17.43) higher than Patriots (M = 14.89) at the .005 level*

Source	Type III Sum	df	Mean	F	Sig.	Partial Eta
	of Squares		Square			Squared
Corrected Model	567.580 ^a	1	567.580	8.762	.003	.024
Intercept	91730.983	1	91730.983	1416.090	.000	.798
Team	567.580	1	567.580	8.762	.003	.024
Error	23190.401	358	64.778			
Total	115477.229	360				
Corrected Total	23757.980	359				

R Squared = .024 (Adjusted R Squared = .021)

Certainty: *Patriots (M = 45.55) higher than Seahawks (M = 44.60) at the .05 level*

Source	Type III Sum	df	Mean	F	Sig.	Partial Eta
	of Squares		Square			Squared
Corrected Model	61.685 ^a	1	61.685	4.436	.036	.012
Intercept	712074.499	1	712074.499	51209.889	.000	.993
Team	61.685	1	61.685	4.436	.036	.012
Error	4977.997	358	13.905			
Total	736886.455	360				
Corrected Total	5039.682	359				

R Squared = .012 (Adjusted R Squared = .009)

Cognition: *Seahawks (M = 6.99) higher than Patriots (M = 5.96) at the .05 level*

Source	Type III Sum	df	Mean	F	Sig.	Partial Eta
	of Squares		Square			Squared
Corrected Model	94.518 ^a	1	94.518	5.379	.021	.015
Intercept	14722.798	1	14722.798	837.942	.000	.701
Team	94.518	1	94.518	5.379	.021	.015

Error	6290.128	358	17.570			
Total	21098.775	360				
Corrected Total	6384.646	359				

R Squared = .015 (Adjusted R Squared = .012)

Cooperation: *Seahawks* ($M = 2.99$) higher than *Seahawks* ($M = 1.78$) at the .05 level

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	130.632 ^a	1	130.632	4.833	.029	.013
Intercept	2005.707	1	2005.707	74.206	.000	.172
Team	130.632	1	130.632	4.833	.029	.013
Error	9676.407	358	27.029			
Total	11702.526	360				
Corrected Total	9807.039	359				

R Squared = .013 (Adjusted R Squared = .011)

Denial: *Seahawks* ($M = 7.78$) higher than *Patriots* ($M = 6.59$) at the .05 level

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	124.311 ^a	1	124.311	6.801	.009	.019
Intercept	18119.073	1	18119.073	991.311	.000	.735
Team	124.311	1	124.311	6.801	.009	.019
Error	6543.484	358	18.278			
Total	24760.765	360				
Corrected Total	6667.794	359				

R Squared = .019 (Adjusted R Squared = .016)

Familiarity: *Patriots* ($M = 127.21$) higher than *Seahawks* ($M = 120.34$) at the .005 level

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	4138.872 ^a	1	4138.872	11.024	.001	.030
Intercept	5381763.956	1	5381763.956	14334.189	.000	.976
Team	4138.872	1	4138.872	11.024	.001	.030
Error	134410.918	358	375.449			
Total	5701454.612	360				
Corrected Total	138549.790	359				

R Squared = .030 (Adjusted R Squared = .027)

Hardship: *Seahawks* ($M = 5.67$) higher than *Seahawks* ($M = 4.26$) at the .005 level

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	174.056 ^a	1	174.056	9.502	.002	.026
Intercept	8652.518	1	8652.518	472.367	.000	.569
Team	174.056	1	174.056	9.502	.002	.026
Error	6557.622	358	18.317			
Total	15211.810	360				
Corrected Total	6731.678	359				

R Squared = .026 (Adjusted R Squared = .023)

Inspiration: *Seahawks* ($M = 1.81$) higher than *Patriots* ($M = 1.32$) at the .005 level

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	20.794 ^a	1	20.794	8.058	.005	.022
Intercept	860.308	1	860.308	333.404	.000	.482
Team	20.794	1	20.794	8.058	.005	.022
Error	923.775	358	2.580			
Total	1784.083	360				
Corrected Total	944.569	359				

R Squared = .022 (Adjusted R Squared = .019)

Present concern: *Seahawks (M = 12.85) higher than Patriots (M = 11.61) at the .05 level*

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	135.016 ^a	1	135.016	4.014	.046	.011
Intercept	52566.869	1	52566.869	1562.766	.000	.814
Team	135.016	1	135.016	4.014	.046	.011
Error	12042.068	358	33.637			
Total	65201.452	360				
Corrected Total	12177.084	359				

R Squared = .011 (Adjusted R Squared = .008)

Self--reference: *Seahawks (M = 9.05) higher than Patriots (M = 6.28) at the .005 level*

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	673.490 ^a	1	673.490	11.758	.001	.032
Intercept	20623.288	1	20623.288	360.041	.000	.501
Team	673.490	1	673.490	11.758	.001	.032
Error	20506.365	358	57.280			
Total	41143.028	360				
Corrected Total	21179.855	359				

R Squared = .032 (Adjusted R Squared = .029)

Table 3: ANOVAs of Diction variables that differ significantly by team in messages written before the Super Bowl outcome

Accomplishment: *Patriots (M = 7.42) higher than Seahawks (M = 6.55) at the .05 level*

Source	Type III Sum	df	Mean	F	Sig.	Partial Eta
	of Squares		Square			Squared
Corrected Model	57.737 ^b	1	57.737	4.063	.045	.021
Intercept	8509.292	1	8509.292	598.830	.000	.760
Team	57.737	1	57.737	4.063	.045	.021
Error	2685.664	189	14.210			
Total	11388.424	191				
Corrected Total	2743.401	190				

R Squared = .021 (Adjusted R Squared = .016)

Aggression: *Patriots (M = 4.61) higher than Seahawks (M = 3.44) at the .05 level*

Source	Type III Sum	df	Mean	F	Sig.	Partial Eta
	of Squares		Square			Squared
Corrected Model	65.258 ^b	1	65.258	4.991	.027	.026
Intercept	3084.943	1	3084.943	235.932	.000	.555
Team	65.258	1	65.258	4.991	.027	.026
Error	2471.284	189	13.076			
Total	5697.508	191				
Corrected Total	2536.542	190				

R Squared = .026 (Adjusted R Squared = .021)

Certainty: *Patriots (M = 45.96) higher than Seahawks (M = 44.51) at the .005 level*

Source	Type III Sum	df	Mean	F	Sig.	Partial Eta
	of Squares		Square			Squared
Corrected Model	100.518 ^b	1	100.518	8.334	.004	.042
Intercept	389018.490	1	389018.490	32252.845	.000	.994
Team	100.518	1	100.518	8.334	.004	.042
Error	2279.628	189	12.062			
Total	394064.829	191				
Corrected Total	2380.146	190				

R Squared = .042 (Adjusted R Squared = .037)

Familiarity: *Patriots (M = 130.03) higher than Seahawks (M = 116.82) at the .005 level*

Source	Type III Sum	df	Mean	F	Sig.	Partial Eta
	of Squares		Square			Squared
Corrected Model	8292.060 ^b	1	8292.060	19.049	.000	.092
Intercept	2896038.153	1	2896038.153	6652.898	.000	.972
Team	8292.060	1	8292.060	19.049	.000	.092
Error	82272.593	189	435.305			
Total	3021312.750	191				
Corrected Total	90564.653	190				

R Squared = .092 (Adjusted R Squared = .087)

Ambivalence: *Seahawks (M = 7.42) higher than Patriots (M = 6.55) at the .05 level*

Source	Type III Sum	df	Mean	F	Sig.	Partial Eta
	of Squares		Square			Squared
Corrected Model	329.815 ^b	1	329.815	5.546	.020	.029
Intercept	47368.322	1	47368.322	796.491	.000	.808
Team	329.815	1	329.815	5.546	.020	.029
Error	11240.070	189	59.471			
Total	58619.650	191				
Corrected Total	11569.885	190				

R Squared = .029 (Adjusted R Squared = .023)

Cognition: *Seahawks (M = 7.59) higher than Patriots (M = 6.21) at the .05 level*

Source	Type III Sum	df	Mean	F	Sig.	Partial Eta
	of Squares		Square			Squared
Corrected Model	90.738 ^b	1	90.738	4.881	.028	.025
Intercept	9047.965	1	9047.965	486.725	.000	.720
Team	90.738	1	90.738	4.881	.028	.025
Error	3513.411	189	18.589			
Total	12570.731	191				
Corrected Total	3604.149	190				

R Squared = .025 (Adjusted R Squared = .020)

Diversity: *Seahawks* ($M = 1.41$) higher than *Patriots* ($M = 0.88$) at the .05 level

Source	Type III Sum	df	Mean	F	Sig.	Partial Eta
	of Squares		Square			Squared
Corrected Model	13.283 ^b	1	13.283	7.745	.006	.039
Intercept	250.321	1	250.321	145.946	.000	.436
Team	13.283	1	13.283	7.745	.006	.039
Error	324.167	189	1.715			
Total	581.112	191				
Corrected Total	337.450	190				

R Squared = .039 (Adjusted R Squared = .034)

Inspiration: *Seahawks* ($M = 2.03$) higher than *Patriots* ($M = 1.31$) at the .005 level

Source	Type III Sum	df	Mean	F	Sig.	Partial Eta
	of Squares		Square			Squared
Corrected Model	24.634 ^b	1	24.634	10.710	.001	.054
Intercept	529.380	1	529.380	230.155	.000	.549
Team	24.634	1	24.634	10.710	.001	.054
Error	434.720	189	2.300			
Total	975.694	191				
Corrected Total	459.353	190				

R Squared = .054 (Adjusted R Squared = .049)

Rapport: *Seahawks* ($M = 2.20$) higher than *Patriots* ($M = 1.39$) at the .05 level

Source	Type III Sum of	df	Mean Square	F	Sig.	Partial Eta
	Squares					Squared
Corrected Model	31.390 ^b	1	31.390	5.456	.021	.028
Intercept	614.406	1	614.406	106.793	.000	.361
Team	31.390	1	31.390	5.456	.021	.028
Error	1087.359	189	5.753			
Total	1717.168	191				

Corrected Total	1118.749	190		
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R Squared = .028 (Adjusted R Squared = .023)

Self-reference: *Seahawks* ($M = 10.28$) higher than *Patriots* ($M = 5.62$) at the .005 level

Source	Type III Sum	df	Mean	F	Sig.	Partial Eta
	of Squares		Square			Squared
Corrected Model	1033.012 ^b	1	1033.012	18.174	.000	.088
Intercept	12018.812	1	12018.812	211.454	.000	.528
Team	1033.012	1	1033.012	18.174	.000	.088
Error	10742.553	189	56.839			
Total	23373.241	191				
Corrected Total	11775.565	190				

R Squared = .088 (Adjusted R Squared = .083)

Table 4: ANOVAs of Diction variables that differ significantly by team in messages written after the Super Bowl outcome

Optimism: *Patriots* ($M = 49.57$) higher than *Seahawks* ($M = 48.47$) at the .05 level

Source	Type III Sum	df	Mean	F	Sig.	Partial Eta
	of Squares		Square			Squared
Corrected Model	48.388 ^b	1	48.388	5.236	.023	.030
Intercept	379814.339	1	379814.339	41095.430	.000	.996
Team	48.388	1	48.388	5.236	.023	.030
Error	1543.456	167	9.242			
Total	410032.789	169				
Corrected Total	1591.845	168				

R Squared = .030 (Adjusted R Squared = .025)

Cooperation: *Seahawks* ($M = 3.14$) higher than *Patriots* ($M = 1.95$) at the .05 level

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	55.882 ^b	1	55.882	5.180	.024	.030
Intercept	1026.244	1	1026.244	95.130	.000	.363
Team	55.882	1	55.882	5.180	.024	.030
Error	1801.557	167	10.788			
Total	2828.289	169				
Corrected Total	1857.439	168				

R Squared = .030 (Adjusted R Squared = .024)

Denial: *Seahawks (M = 8.06) higher than Patriots (M = 6.34) at the .05 level*

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	116.062 ^b	1	116.062	6.894	.009	.040
Intercept	8196.847	1	8196.847	486.912	.000	.745
Team	116.062	1	116.062	6.894	.009	.040
Error	2811.337	167	16.834			
Total	11168.966	169				
Corrected Total	2927.399	168				

R Squared = .040 (Adjusted R Squared = .034)

Exclusion: *Seahawks (M = 1.14) higher than Patriots (M = 0.71) at the .05 level*

Source	Type III Sum	df	Mean	F	Sig.	Partial Eta
	of Squares		Square			Squared
Corrected Model	7.202 ^b	1	7.202	3.887	.050	.023
Intercept	134.624	1	134.624	72.664	.000	.303
Team	7.202	1	7.202	3.887	.050	.023
Error	309.399	167	1.853			
Total	444.100	169				
Corrected Total	316.601	168				

R Squared = .023 (Adjusted R Squared = .017)

Hardship: *Seahawks (M = 5.85) higher than Patriots (M = 3.85) at the .005 level*

Source	Type III Sum	df	Mean	F	Sig.	Partial Eta
	of Squares		Square			Squared
Corrected Model	158.248 ^b	1	158.248	8.026	.005	.046
Intercept	3711.923	1	3711.923	188.265	.000	.530
Team	158.248	1	158.248	8.026	.005	.046
Error	3292.649	167	19.716			
Total	7013.702	169				
Corrected Total	3450.897	168				

R Squared = .046 (Adjusted R Squared = .040)

Table 4: Definitions of Diction variables found to vary significantly by team

Accomplishment: Words expressing task---completion (establish, finish, influence, proceed) and organized human behavior (motivated, influence, leader, manage). Includes capitalistic terms (buy, produce, employees, sell), modes of expansion (grow, increase, generate, construction) and general functionality (handling, strengthen, succeed, outputs). Also included is programmatic language: agenda, enacted, working, leadership.

Aggression: A dictionary embracing human competition and forceful action. Its terms connote physical energy (blast, crash, explode, collide), social domination (conquest, attacking, dictatorships, violation), and goal---directedness (crusade, commanded, challenging, overcome). In addition, words associated with personal triumph (mastered, rambunctious, pushy), excess human energy (prod, poke, pound, shove), disassembly (dismantle, demolish, overturn, veto) and resistance (prevent, reduce, defend, curbed) are included.

Ambivalence: Words expressing hesitation or uncertainty, implying a speaker's inability or unwillingness to commit to the verbalization being made. Included are hedges (allegedly, perhaps,

might), statements of inexactness (almost, approximate, vague, somewhere) and confusion (baffled, puzzling, hesitate). Also included are words of restrained possibility (could, would, he'd) and mystery (dilemma, guess, suppose, seems).

Certainty Master Variable: Language indicating resoluteness, inflexibility, and completeness and a tendency to speak ex cathedra. **Formula:** [Tenacity + Leveling + Collectives + Insistence] -- [Numerical Terms + Ambivalence + Self Reference + Variety]

Cognitive terms: Words referring to cerebral processes, both functional and imaginative. Included are modes of discovery (learn, deliberate, consider, compare) and domains of study (biology, psychology, logic, economics). The dictionary includes mental challenges (question, forget, re---examine, paradoxes), institutional learning practices (graduation, teaching, classrooms), as well as three forms of intellection: intuitional (invent, perceive, speculate, interpret), rationalistic (estimate, examine, reasonable, strategies), and calculative (diagnose, analyze, software, fact---finding).

Cooperation: Terms designating behavioral interactions among people that often result in a group product. Included are designations of formal work relations (unions, schoolmates, caucus) and informal associations (chum, partner, cronies) to more intimate interactions (sisterhood, friendship, comrade). Also included are neutral interactions (consolidate, mediate, alignment), job---related tasks (network, detente, exchange), personal involvement (teamwork, sharing, contribute), and self---denial (public--- spirited, care- taking, self-sacrifice).

Denial: A dictionary consisting of standard negative contractions (aren't, shouldn't, don't), negative functions words (nor, not, nay), and terms designating null sets (nothing, nobody, none).

Diversity: Words describing individuals or groups of individuals differing from the norm. Such distinctiveness may be comparatively neutral (inconsistent, contrasting, non---conformist) but it can also be positive (exceptional, unique, individualistic) and negative (illegitimate, rabble---rouser, extremist). Functionally, heterogeneity may be an asset (far---flung, dispersed, diffuse) or a liability (factionalism, deviancy, quirky) as can its characterizations: rare vs. queer, variety vs. jumble, distinctive vs. disobedient.

Exclusion: A dictionary describing the sources and effects of social isolation. Such seclusion can be phrased passively (displaced, sequestered) as well as positively (self---contained, self---sufficient) and negatively (outlaws, repudiated). Moreover, it can result from voluntary forces (secede, privacy) and involuntary forces (ostracize, forsake, discriminate) and from both personality factors (smallmindedness, loneliness) and political factors (right---wingers, nihilism). Exclusion is often a dialectical concept: hermit vs. derelict, refugee vs. pariah, discard vs. spurn).

Familiarity: Consists of a selected number of C.K. Ogden's (1968) operation words which he calculates to be the most common words in the English language. Included are common prepositions (across, over, through), demonstrative pronouns (this, that) and interrogative pronouns (who, what), and a variety of particles, conjunctions and connectives (a, for, so).

Hardship: This dictionary contains natural disasters (earthquake, starvation, tornado, pollution), hostile

actions (killers, bankruptcy, enemies, vices) and censurable human behavior (infidelity, despots, betrayal). It also includes unsavory political outcomes (injustice, slavery, exploitation, rebellion) as well as normal human fears (grief, unemployment, died, apprehension) and incapacities (error, cop-outs, weakness).

Inspiration: Abstract virtues deserving of universal respect. Most of the terms in this dictionary are nouns isolating desirable moral qualities (faith, honesty, self--sacrifice, virtue) as well as attractive personal qualities (courage, dedication, wisdom, mercy). Social and political ideals are also included: patriotism, success, education, justice.

Optimism Master Variable: Language endorsing some person, group, concept or event or highlighting their positive entailments. **Formula:** [Praise + Satisfaction + Inspiration] -- [Blame + Hardship + Denial]

Present concern: A selective list of present---tense verbs extrapolated from C. K. Ogden's list of general and picturable terms, all of which occur with great frequency in standard American English. The dictionary is not topic---specific but points instead to general physical activity (cough, taste, sing, take), social operations (canvass, touch, govern, meet), and task--performance (make, cook, print, paint).

Rapport: This dictionary describes attitudinal similarities among groups of people. Included are terms of affinity (congenial, camaraderie, companion), assent (approve, vouched, warrants), deference (tolerant, willing, permission), and id entity (equivalent, resemble, consensus).

Self-reference: All first---person references, including I, I'd, I'll, I'm, I've, me, mine, my, myself. Self---references are treated as acts of indexing whereby the locus of action appears to reside in the speaker and not in the world at large thereby implicitly acknowledging the speaker's limited vision.

Source: *Diction 7.0 Help Manual*, <http://www.dictionsoftware.com/>

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