

AEW and WWE's Wednesday Night Wars: An Early Analysis

Vincent Smith

West Virginia State University

vincent.smith@wvstateu.edu

All Elite Wrestling (AEW) and World Wrestling Entertainment (WWE) are two of the biggest names in the sports entertainment industry. Currently, AEW's Dynamite and WWE's NXT both debut at the same time slot on cable television and are in direct competition. AEW's Dynamite has been on the air for over a year now; predictive analytics are used to see if AEW's Dynamite can continue to produce needed viewership numbers and ratings. A t-test found a significant difference in AEW Dynamite and WWE's NXT viewership and ratings. A regression analysis of AEW's Dynamite's viewership numbers and ratings found a significant result as well. Details of these results are thoroughly discussed. Limitations of this analysis are considered including the impact of COVID-19 on the sports entertainment industry.

Keywords: All Elite Wrestling, AEW, World Wrestling Entertainment, WWE, Sports, Television, Dynamite, NXT, company, business, comparison

Background

All Elite Wrestling (AEW) is a new wrestling entertainment promotion that was recently formed and signed to a major television station. Currently owned by Tony Khan, AEW is advertised as an alternative to mainstream wrestling. AEW features two weekly shows: *AEW Dynamite* on TNT and *AEW Dark* on YouTube. Pay-per-view events are also featured throughout the year. The mission of AEW is to provide the best wrestling matches and entertainment to fans; the product is meant to be inspiring, memorable, and spectacular ("About All Elite Wrestling").

Although both companies seem to deny it at times, AEW's biggest competition is World Wrestling Entertainment (WWE) (Konuwa, "WWE and AEW"). After *AEW Dynamite* was advertised to be shown on TNT weekly Wednesday at 8:00 p.m., WWE moved *WWE NXT* to the USA Network weekly Wednesday at 8:00 p.m. (Konuwa, "WWE and AEW"). *WWE NXT* premiered on the USA Network two weeks prior to *AEW Dynamite's* debut (Konuwa, "WWE and

Vincent Smith is a long-time wrestling fan and instructor at West Virginia State University with a Masters in Mathematics from Marshall University who is currently finishing his Ph.D in Data Science at Northcentral University.

AEW”). Although AEW is a brand-new company, WWE has been around for many years, with an already established presence worldwide (Eckerbom et al., 2019). Previous work has analyzed some of the qualitative data on the competition between AEW and WWE (Eckerbom et al.). Many comparisons are drawn between AEW and WWE (Eckerbom et al.), including many quantitative variables that can be analyzed.

All Elite Wrestling’s *Dynamite* must be able to have high ratings and high viewership in the future while being able to compete with direct competition to maintain a profit. This is a problem because new television shows can quickly fail if their viewership numbers decrease significantly. This is also a problem because if another business creates a similar product that consistently outperforms another company, the company that is underperforming is likely to fail. Strong competition decreases a new business’s ability to survive and grow (Mengistae). For the longevity of the company, solving the two aspects of this problem is crucial.

Variables

Nielsen television ratings have been a quantitative way to measure the success of a television show for around seventy years (“TV Ratings”). Nielsen ratings provide the number of viewers and an overall rating for the program each week (“TV Ratings”). This data is important to producers of television shows since they can actively view information on how well their show is performing (Otterson). Nielsen ratings also allow for comparisons of different television shows (Otterson). It should be noted that many factors, such as time of broadcast and day of broadcast, greatly influence these variables (Otterson). Data used for analysis is the number of viewers and the Nielsen rating for the target demographic (ages eighteen to forty-nine). Data was retrieved from ShowBuzz Daily, a website devoted to posting information on television shows and movies. It should also be noted that this is the website that many popular wrestling news stories cite for where they obtain their viewership and rating numbers.

Since the problem statement specifically deals with profit, financial reports of revenue from All Elite Wrestling would be used for analysis, but since the company is so new, it is likely that the data from these reports would be limited. Finding out what divisions of All Elite Wrestling produce the most money along with what divisions need the most improvement would be very beneficial to the company. Unfortunately, there are currently no public reports from AEW to analyze; the company does not have shareholders and is not required to publish an annual report. The company likely maintains records of all revenue and accessing this information would allow for a comparison between different types of revenue along with predictions on what types of revenue will be most profitable. However, at this time, individuals involved with the company’s data analytics are likely the

only ones with access. Thus, financial information will be omitted from this research. Similarly, merchandise sales of individual wrestlers would be an interesting related research topic, but the publicly available data for this is limited, as well.

Methods

There were three weeks (*WWE NXT* debuted two weeks before the debut of *AEW Dynamite*, and *AEW Dynamite* did not have an episode on Christmas) that *AEW Dynamite* did not have a show to compare to *WWE NXT*. In addition, between the weeks of August 19, 2020 and September 9, 2020, *AEW Dynamite* and *WWE NXT* did not air at normal times due to the NBA and Stanley Cup playoffs. Those weeks were removed from the comparative analysis. After removing these cases, this left a sample size of 65 weeks to analyze (between October 2, 2019 and January 27, 2021). Data was coded per hundred thousand viewers since viewership numbers are rounded to the nearest hundred thousand.

AEW Dynamite's maximum viewership occurred on the premiere night with 1.4 million viewers. This night was also the highest-rated show with a rating of .68. The lowest viewership for *AEW Dynamite* was 633 thousand viewers on June 24 2020. The lowest rating for *AEW Dynamite* was .22, which occurred on June 24, 2020. The average number of weekly viewers for *AEW Dynamite* is about, 819.55 thousand with a standard deviation of 123.13 thousand. The average rating for *AEW Dynamite* is .32, with a standard deviation of .07.

When considering the competition's viewership, *WWE NXT* had a maximum viewership of 916 thousand and the highest-rated show had a rating of .32 (note that *NXT* did have a higher maximum viewership and rating that was not included in the analysis since it was prior to the debut of *AEW Dynamite*). The lowest viewership and rating for *NXT* was 542 thousand (March 18, 2020) and .12 (December 30, 2020), respectively. The average number of viewers for *NXT* is 701.68 thousand with a standard deviation of 82.13 thousand. The average rating for *NXT* is .20, with a standard deviation of .04.

Histograms were created to examine if the variables used were normally distributed. A histogram showing *AEW Dynamite's* viewership and Nielsen rating is shown in Figure 1 and Figure 2, respectively, in the appendix. As can be seen in these figures, there is a single outlier; the initial week of viewership, *AEW Dynamite* had viewership and a rating that was higher than three standard deviations above the mean. Thus, this outlier will be removed in further analyses. A histogram showing *WWE NXT's* viewership and Nielsen rating is shown in Figure 3 and Figure 4, respectively, in the appendix. After the removal of the outlier, *AEW Dynamite's* viewership and rating is approaching normality without any data transformation;

WWE NXT is approaching normality for both viewership and rating without any data transformation.

Scatterplots created for *AEW Dynamite's* viewership and ratings to further confirm the outlier in the data set. Removing outliers before analyses can improve various types of estimation (Krauledat et al.). Since there is a multitude of techniques for identifying outliers, it is best to confirm the existence of outliers with multiple procedures (Krauledat et al.). After the outlier was removed, scatterplots were created for *AEW Dynamite's* viewership and ratings and can be found in Figure 5 and Figure 6, respectively.

Models and Results

The first analysis performed was a dependent samples t-test to see if there is a significant difference in the weekly viewership of *AEW Dynamite* and *WWE NXT*. There was a significant difference in the viewership, $t(63) = 7.29$, $\bar{d} = 111.77$, $s_d = 122.61$, $p < .001$. Since there was a significant difference shown, the means and standard errors (in thousands) were compared which showed *AEW Dynamite* ($M = 810.48$, $SE = 12.48$) had a significantly higher average number of viewers than *WWE NXT* ($M = 698.72$, $SE = 9.90$). A bar graph showing the comparison can be found in Figure 7 in the appendix.

The next analysis performed was a dependent samples t-test to see if there is a significant difference in the weekly Nielsen rating of *AEW Dynamite* and *WWE NXT*. There was a significant difference in the Nielsen rating, $t(63) = 15.46$, $\bar{d} = .13$, $s_d = .07$, $p < .001$. Since there was a significant difference shown, the means were compared which showed *AEW Dynamite* ($M = 0.32$, $SE = 0.01$) had a significantly higher average Nielsen ratings than *WWE NXT* ($M = 0.19$, $SE = 0.01$). A bar graph showing the comparison can be found in Figure 8 in the appendix.

The third analysis performed was a regression analysis to see if there is a significant linear or non-linear relationship in *AEW Dynamite's* viewership over time. It should be noted the time was entered as the week of the debut; after the outlier was removed, this means the variable consisted of 2 through 68 (note that Christmas day 2019 was the only week skipped). For this analysis, weeks that *AEW Dynamite* was moved to a different day or time were still included. Since the scatterplot shown in Figure 5 does not necessarily well represent a linear relationship, three models were proposed. In the first model, linear regression was performed; a significant regression equation was not found, $F(1, 66) = 2.59$, $p = .11$ with an $R^2 = .04$. In the second model, quadratic regression was performed; a significant regression equation was found, $F(2, 65) = 5.54$, $p = .006$ with an $R^2 = .15$. In the third model, cubic regression was performed; a significant regression

equation was found, $F(3, 64) = 4.77$, $p = .005$ with an $R^2 = .18$. The quadratic regression model was accepted; the number of viewers (in thousands) is approximately equal to $0.10x^2 - 7.80x + 933.52$ where x is the week number. A scatterplot with all three regression lines can be found in Figure 9 in the appendix for a comparison. Additionally, the scatterplot with the quadratic regression line can be found in Figure 10 in the appendix. Although higher degree polynomials may better fit the equation, the choice was made to not accept the cubic polynomial (or a higher degree polynomial) due to overfitting. In addition, the coefficient of the cubic term in the regression equation was very close to 0.

The last analysis performed was a regression analysis to see if there is a significant linear or non-linear relationship in *AEW Dynamite's* Nielsen ratings over time. The week variable remained the same as in the previous model. Since the scatterplot shown in Figure 6 does not necessarily well represent a linear relationship, three models were proposed. In the first model, linear regression was performed; a significant regression equation was not found, $F(1, 66) = 1.59$, $p = .21$ with an $R^2 = .02$. In the second model, quadratic regression was performed; a significant regression equation was found, $F(2, 65) = 13.15$, $p < .001$ with an $R^2 = .29$. In the third model, cubic regression was performed; a significant regression equation was found, $F(3, 64) = 12.76$, $p < .001$ with an $R^2 = .37$. Again, the quadratic model was accepted; the Nielsen rating is approximately equal to $0.0001x^2 - 0.006x + .41$ where x is the week number. Although the cubic model performed slightly better, this is likely due to overfitting.

Conclusions

The results of the t-tests suggest not only is *AEW Dynamite* able to compete with *WWE NXT*, but it also has significantly higher viewership and ratings on average. This implies that although there is direct competition from a major worldwide business, All Elite Wrestling still maintains high viewership and ratings for *Dynamite*. The current business models allow All Elite Wrestling to maintain a strong presence through the difficult contest. When comparing week by week, *AEW Dynamite* has lower viewership numbers than *WWE NXT* only once. That single week is also the only week that *AEW Dynamite* lost in ratings to *WWE NXT*.

The quadratic regression analysis suggests that although *AEW Dynamite* had an overall decline in viewership until around week 28, the viewership numbers did increase after this dip. It is possible that this dip is COVID-19 related due to the time that the viewers were decreasing. In addition to this, shows filmed during this period were not in front of a live audience, which may have some impact on viewership. On the other hand, due to these restrictions, many sporting events have been completely canceled; this means that there may be an open market for professional

wrestling companies to gain new viewers that would otherwise be watching sporting events. Another potential reason for this dip could be that the pattern may continue to increase and decrease like a cosine function. Since there were less than seventy data points included in the analysis, this trend may have not fully developed yet. To better view possible seasonal relationships, an analysis of *WWE Raw* or *WWE SmackDown* data may be beneficial. Since *AEW Dynamite* continued to have higher ratings and viewership than *WWE NXT* during this time, this implies that direct competition from another company was not the main factor in the decline.

Limitations

While *AEW Dynamite* is doing well against *WWE NXT*, *WWE* has two other shows (*Raw* and *SmackDown*) that bring in many viewers and have high ratings. If *AEW Dynamite* is to be compared to these shows, it is likely that *AEW Dynamite* would not look as strong; however, since these shows premiere at different time slots, it would not be an accurate comparison. *WWE's SmackDown* and *Raw* also have been established longer with a larger loyal fanbase. Although *AEW Dynamite* is winning in the single show competition between *Dynamite* and *NXT*, this does not imply that All Elite Wrestling is doing better as a company than World Wrestling Entertainment. More thorough analyses would be needed to compare various company statistics (Dixon).

Another limitation of the comparison is the unfair advantage of time. *WWE* is a popular business that has been established and had popular television shows for many decades, but *AEW* has had a television show for under a year at the time of analysis. All Elite Wrestling is growing; the company plans to release another show on cable television sometime in the future (Oestrieher). Although many comparisons are being made about the companies, these comparisons may be of more value years in the future once *AEW* has established itself in the business (Konuwa, "AEW"). The difference in any well-established global company and a new business is likely to be drastic; however, the fact that *AEW* is doing so well against this type of competition makes this a unique case to study. The limitation here also directly ties into the statistical issue of the current analyses having a small sample size.

One more limitation of this study is the lack of social media information provided. It has been shown that social media and television ratings are related (Cheng et al.). Future analyses examining this relationship, specifically for professional wrestling, could give more information that could be used to find potential solutions to the stated problem. Social media use is of great importance to the wrestling community in many different ways; it allows wrestling promotions to advertise, it allows a look into the personal lives of wrestlers, and for some, it allows

for wrestlers to continue to use kayfabe (presenting staged performance as genuine) outside of the ring (Olson). Allowing fans to connect through social media allows for a closer relationship which hopefully increases loyalty and, ultimately, increases viewership and ratings. A thorough analysis of the social media performance of All Elite Wrestling would likely lead to a plethora of information that could be used to help increase profits.

Future Work

While this work does come to some quantitative conclusions about the “Wednesday Night Wars” and the future of AEW, there is still much work to be done. Future work comparing viewership and ratings during the pandemic and post-pandemic could yield exciting results. Similarly, looking at the possible impact that having a live audience has on viewership and ratings may also be a future direction. As more data is collected on viewership and ratings of AEW, it is likely that more models could be proposed that would more accurately fit the data. Since this initial analysis had a limited sample size, it is likely repeating the regression analyses in the future will produce a different model.

More advanced models that include social media data may also be useful to help predict the future of AEW. Specifically, sentiment analysis on how shows or companies are perceived on social media platforms could be of interest. Data visualizations could be included to show keywords. In addition, a new sentiment dictionary may need to be formed to include common wrestling terms used on social media. Sentiment analysis is just one way that social media data could be analyzed; if enough data was collected, machine learning models could be useful to scholarly research in wrestling as well.

Works Cited

- “About All Elite Wrestling.” (2020). *All Elite Wrestling*,
<https://www.allelitewrestling.com/about-aew>
- Cheng, Mei-Hua, et al. “Television Meets Facebook: The Correlation Between TV Ratings and Social Media.” *American Journal of Industrial and Business Management*, vol. 6, 2016, pp. 282-90.
- Dixon, James. “WWE Television Ratings 2020.” *WrestleTalk*,
<https://wrestletalk.com/stats/wwe-television-ratings-2020/> [link inactive].
- Eckerbom, Johanna, et al. “Management of Events Over Time: The Paradox of Brand Continuity and Change.” *LBMG Strategic Brand Management-Masters Paper Series*, 2019.

- Konuwa, Alfred. "AEW Is Signing Away Several Former WWE Superstars And That's Perfectly Fine." *Forbes*, 12 Apr. 2020, <https://www.forbes.com/sites/alfredkonuwa/2020/04/12/aew-is-signing-away-several-former-wwe-superstars-and-thats-perfectly-fine/#5e7f63d87a12>
- . "WWE And AEW Repeatedly And Ridiculously Deny Being Each Other's Competition." *Forbes*, 22 Aug. 2019, <https://www.forbes.com/sites/alfredkonuwa/2019/08/22/wwe-and-aew-repeatedly-and-ridiculously-deny-being-each-others-competition-an-oral-history/#56257dc72cd9>
- Krauledat, Matthias, et al. "Robustifying EEG Data Analysis by Removing Outliers." *Chaos and Complexity Letters*, vol. 2, no. 3, 2007, pp. 259-74.
- Mengistae, Taye. "Competition and Entrepreneurs' Human Capital in Small Business Longevity and Growth." *The Journal of Development Studies*, vol. 42, no. 5, 2006, pp. 812-36.
- Oestriecher, Blake. "AEW is Launching a Second TV Show in a Bold Move that May Ultimately Backfire." *Forbes*, 22 Jan. 2020, <https://www.forbes.com/sites/blakeoestriecher/2020/01/22/aew-is-launching-a-second-tv-show-in-a-bold-move-that-may-ultimately-backfire/#71d268853f82>
- Olson, Christopher J. "Twitter, Facebook, and Professional Wrestling: Indie Wrestler Perspectives on the Importance of Social Media." *The Popular Culture Studies Journal*, vol. 6, no. 1, 2018, pp. 306-16.
- Otterson, Joe. "AEW vs. NXT Ratings: Who Is Winning the Wednesday Night Wars?" *Variety*, 8 Jan. 2020, <https://variety.com/2020/tv/news/aew-nxt-ratings-wednesday-night-wars-1203434472/>
- "TV Ratings." *Nielsen*, <https://www.nielsen.com/us/en/solutions/measurement/television/>
- "WWE NXT Ratings." *Showbuzz Daily*, www.showbuzzdaily.com/tag/wwe-nxt-ratings

Appendix

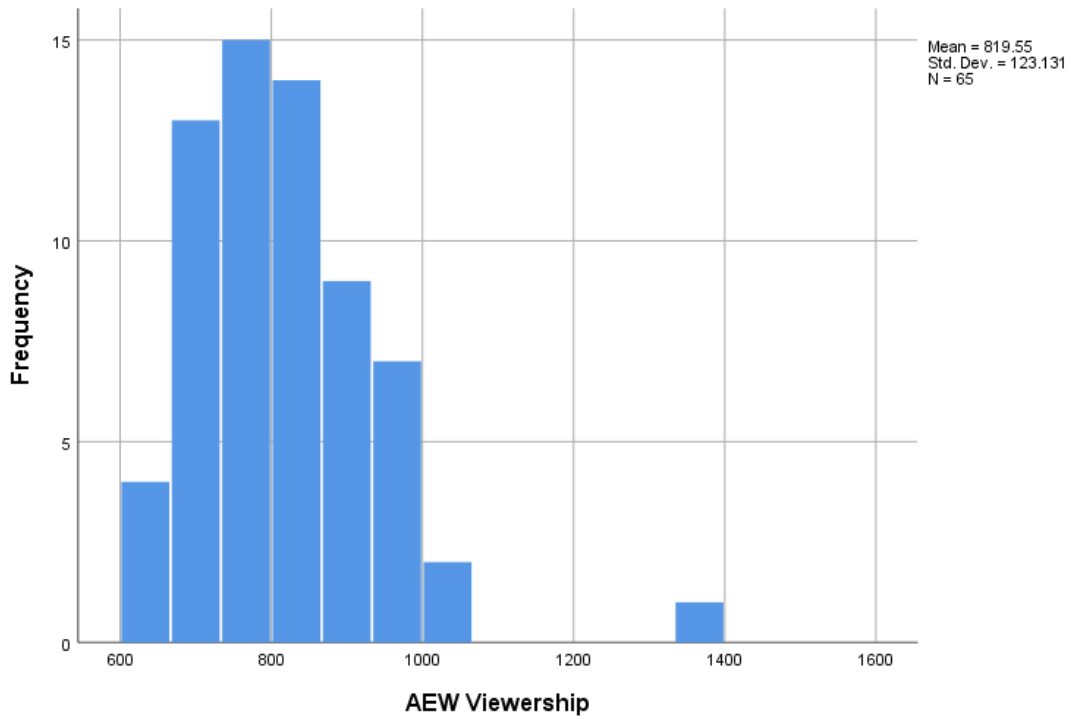


Figure 1. Histogram of AEW Dynamite Viewership

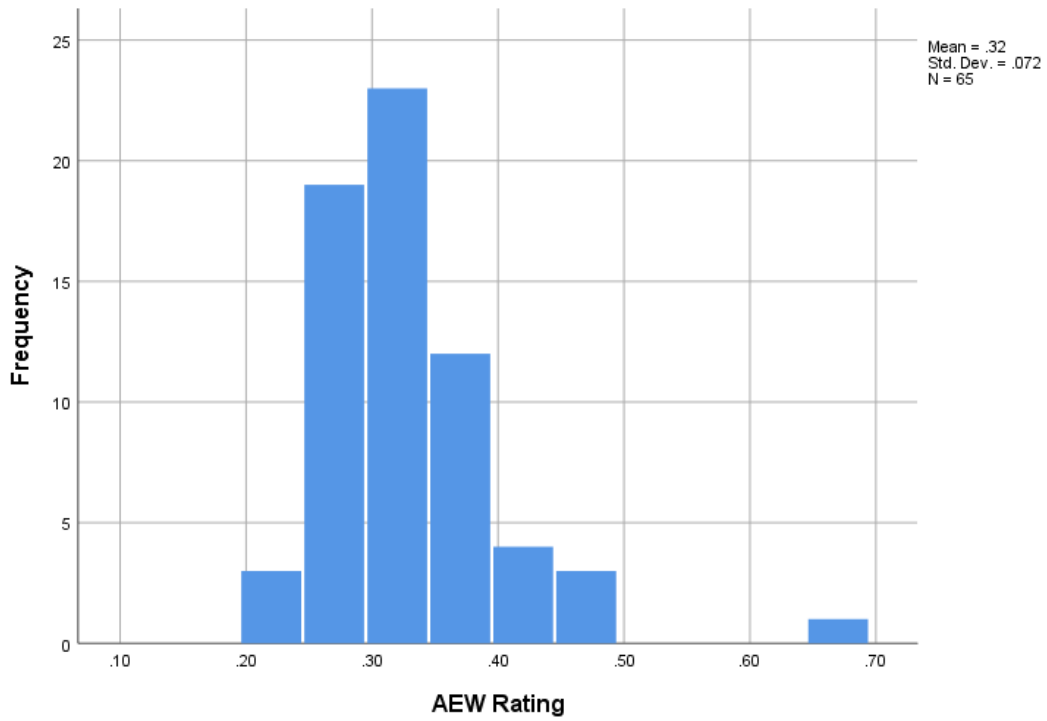


Figure 2. Histogram of AEW Dynamite Nielsen Rating

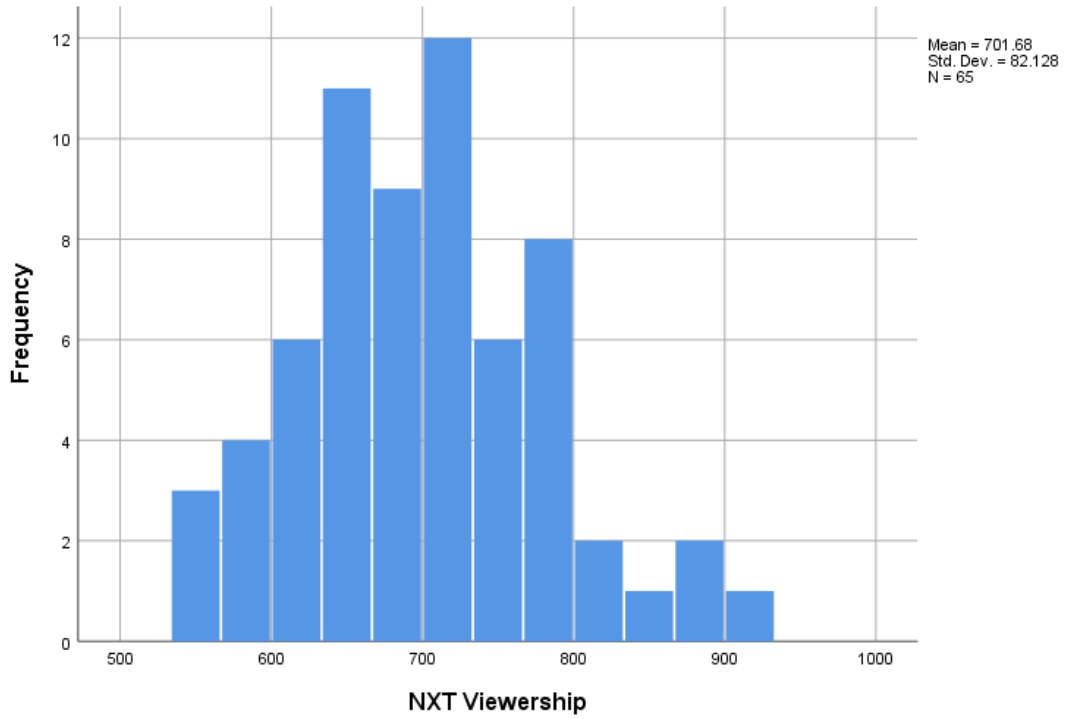


Figure 3. Histogram of *WWE NXT* Viewership

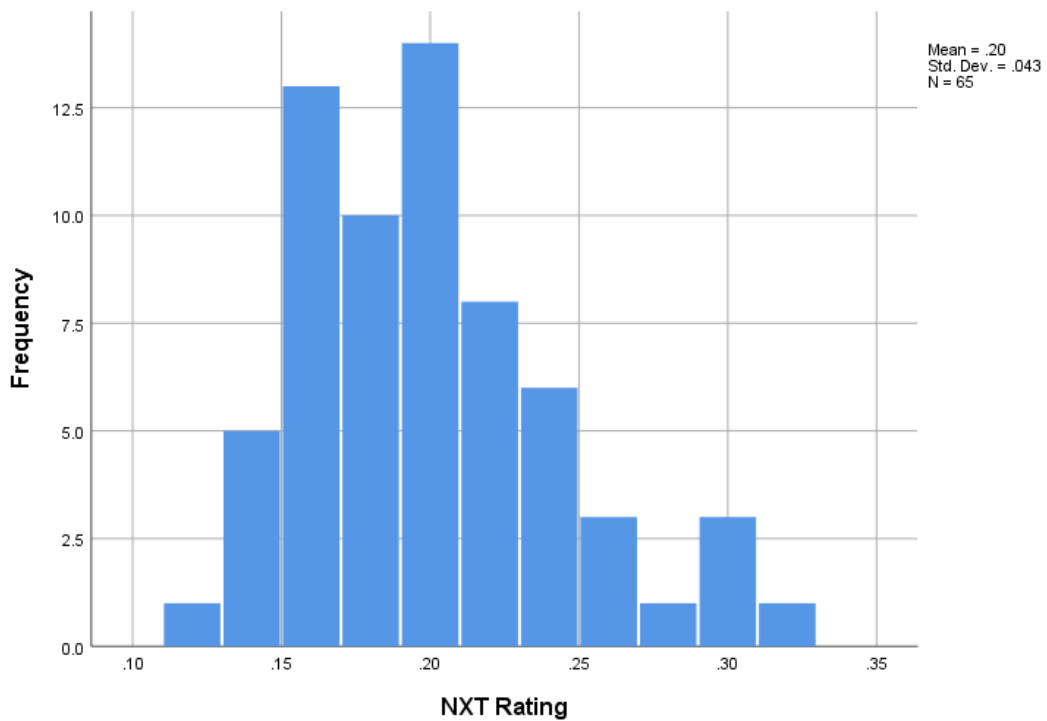


Figure 4. Histogram of *WWE NXT* Nielsen Rating

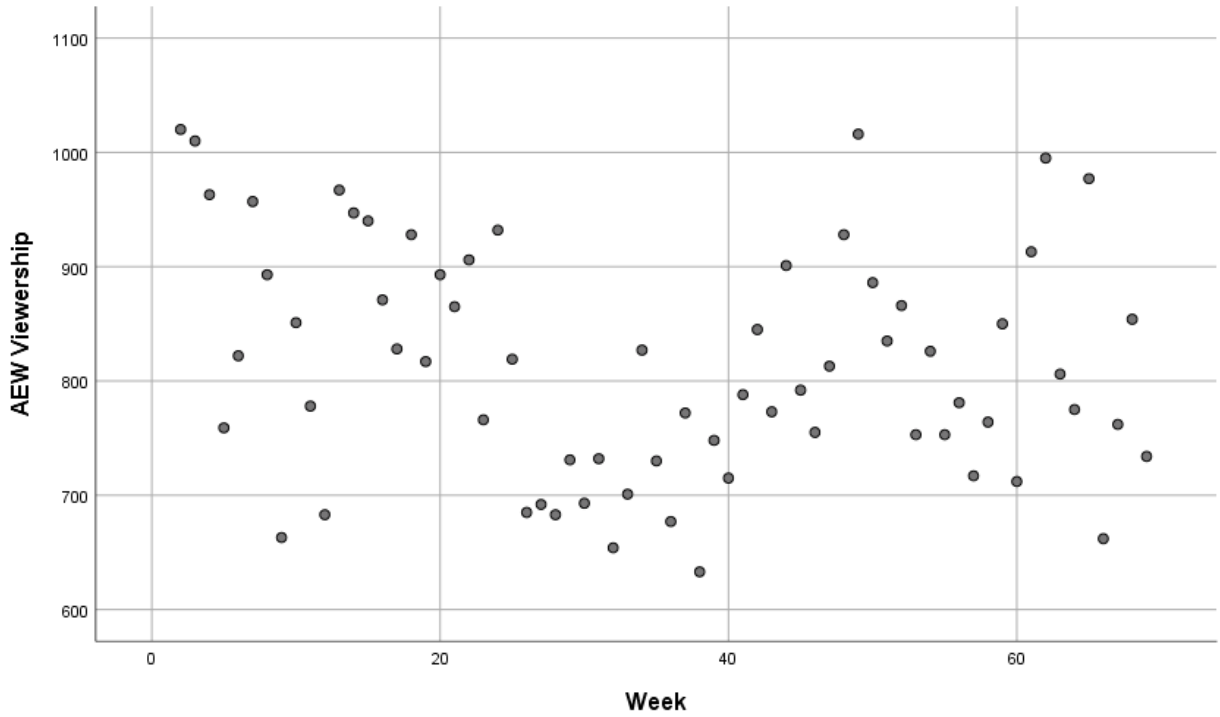


Figure 5. Scatterplot of *AEW Dynamite* Viewership over Time

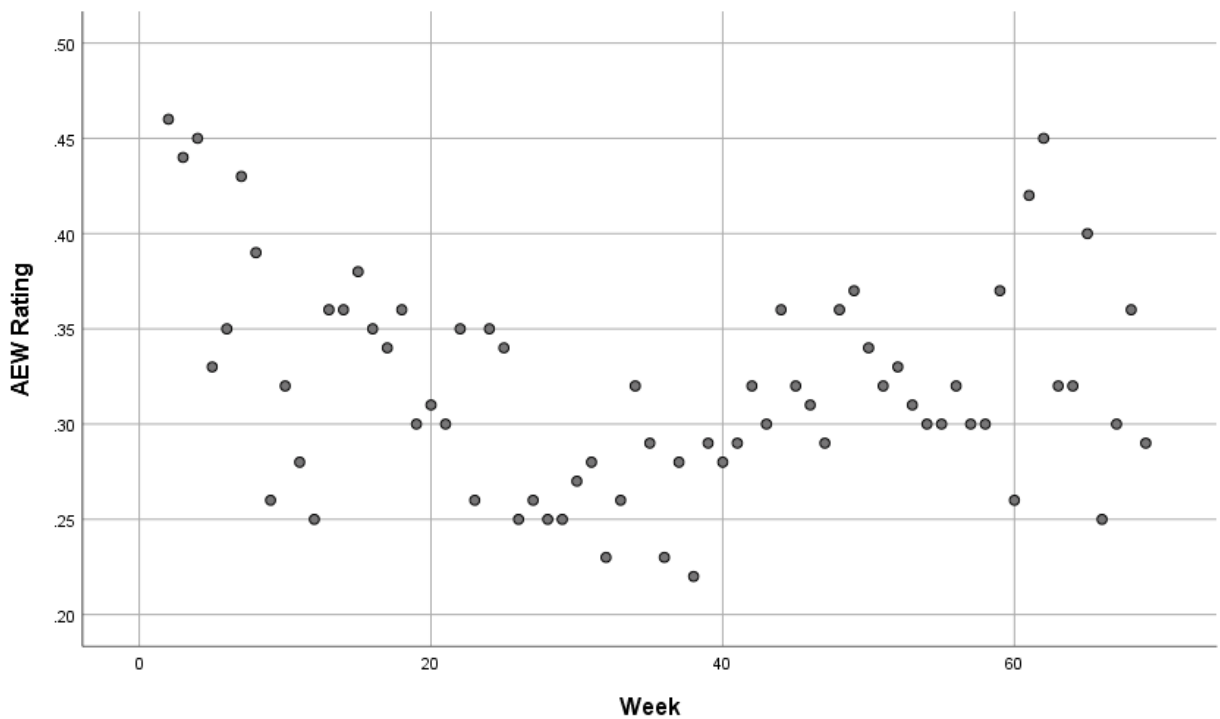


Figure 6. Scatterplot of *AEW Dynamite* Rating over Time

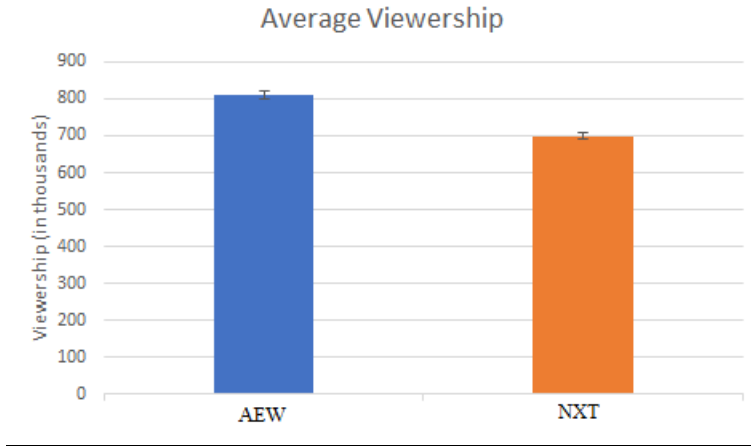


Figure 7. Bar Graph Comparing *AEW Dynamite* and *WWE NXT* Viewership

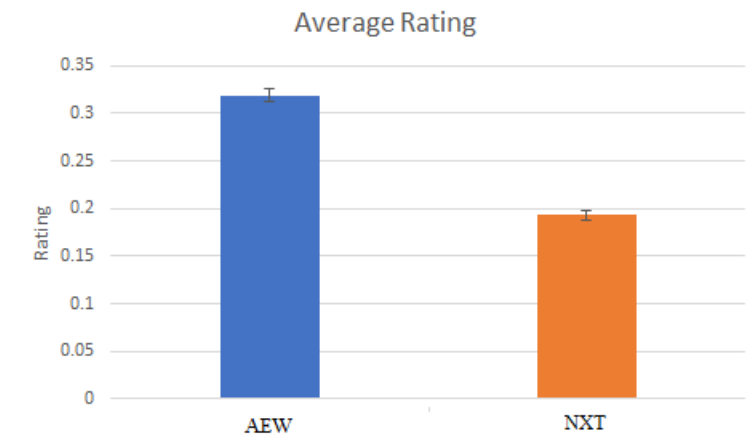


Figure 8. Bar Graph Comparing *AEW Dynamite* and *WWE NXT* Ratings

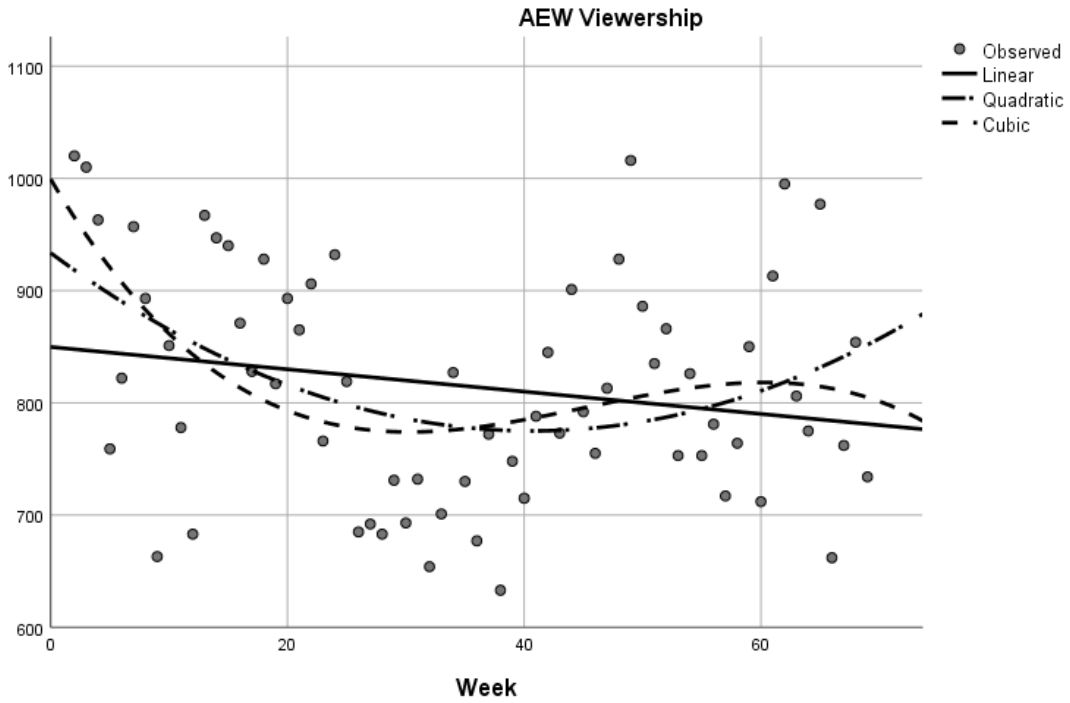


Figure 9. Scatterplot with Lines of Best Fit for AEW Dynamite Viewership over Time

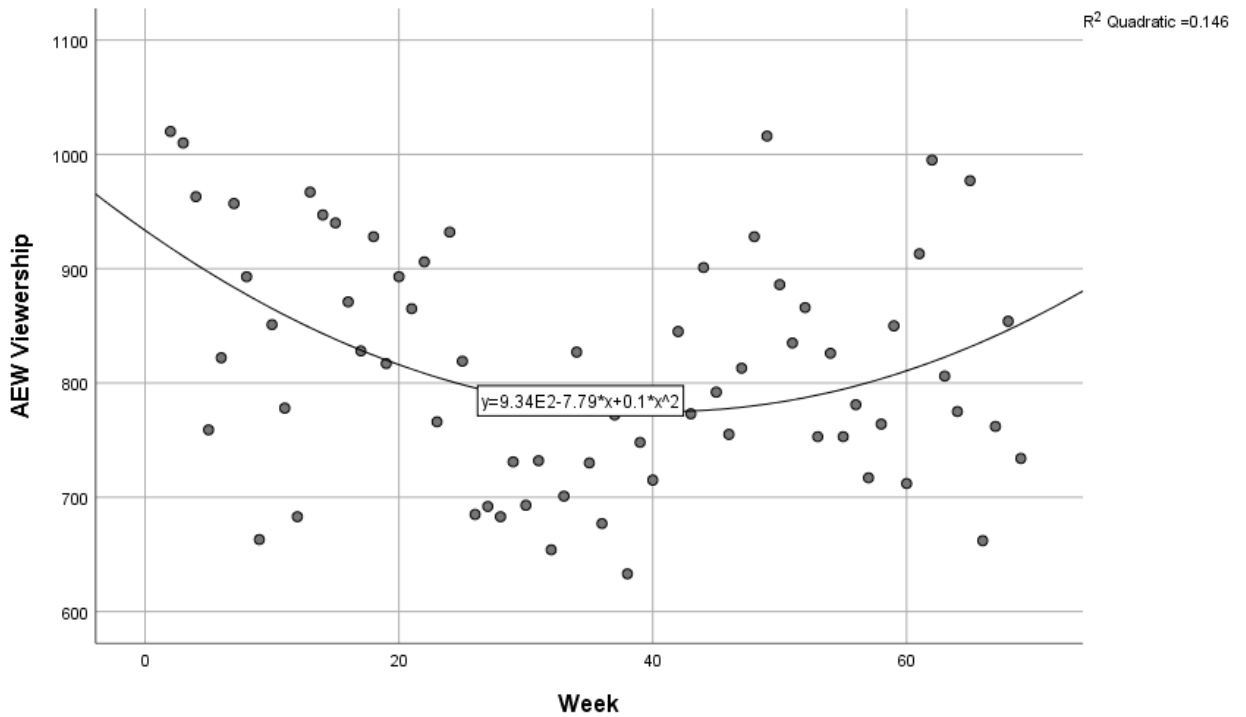


Figure 10. Scatterplot with Quadratic Regression Line for AEW Dynamite Viewership over Time

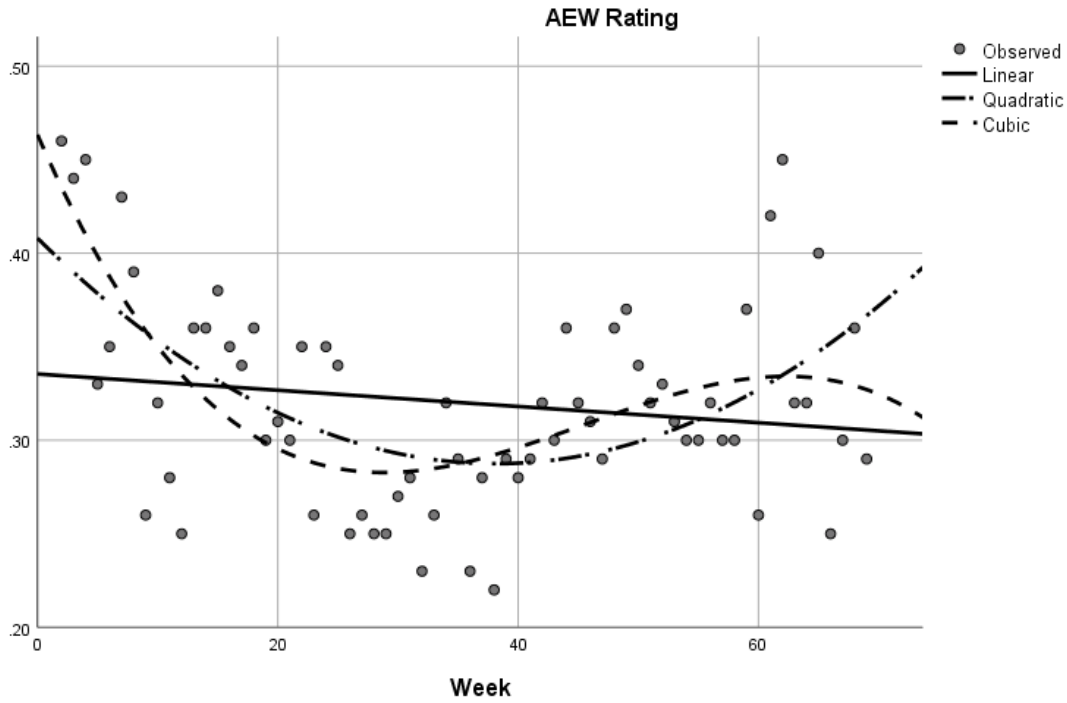


Figure 11. Scatterplot with Lines of Best Fit for *AEW Dynamite* Rating over Time

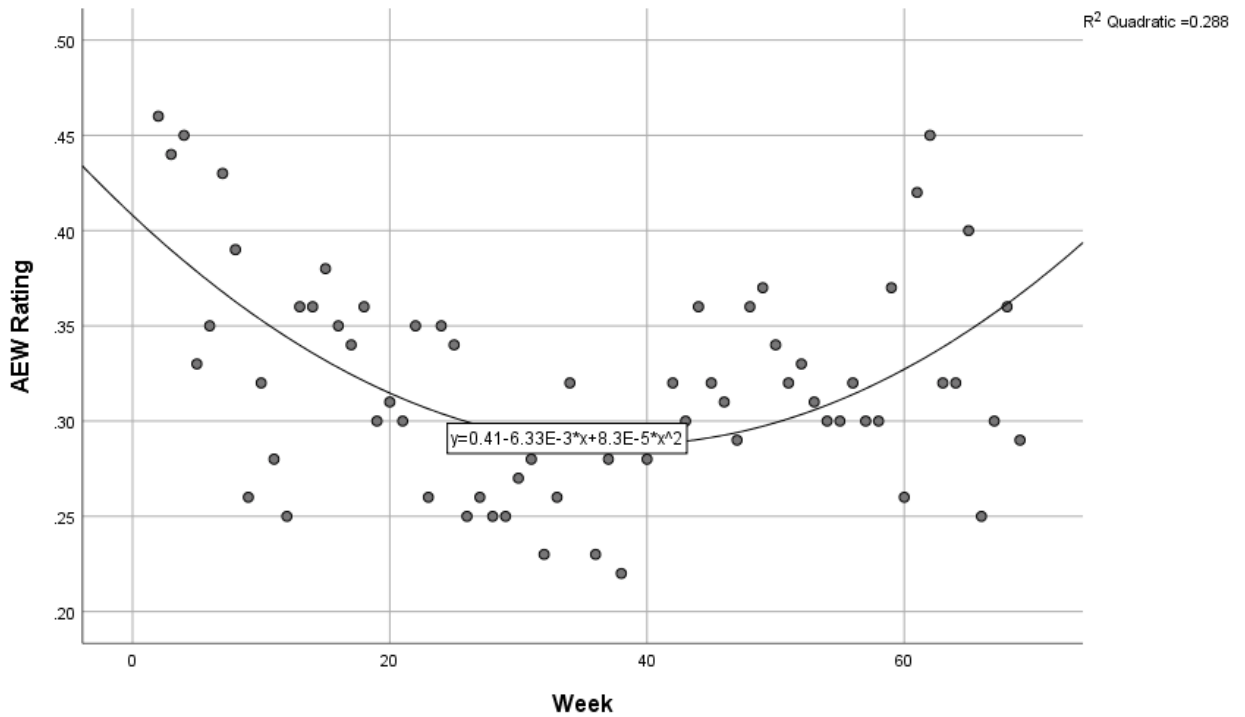


Figure 12. Scatterplot with Quadratic Regression Line for *AEW Dynamite* Rating over Time