

## It's All Good Man!!!!

### The Evolution of Slipping Jimmy in a World of Gray

#### Introduction

In "It's All Good, Man: The Evolution of Slipping Jimmy in a World of Gray", we explore the captivating world of one of the most-watched television series globally, "Better Call Saul." This critically acclaimed show not only stands as a testament to masterful storytelling but also traces the remarkable transformation of Jimmy McGill, an earnest lawyer, into Saul Goodman, an iconic character known for his moral ambiguity and cunning legal tactics. The series, celebrated for its complex characters and intricate plot, invites viewers into a deeply layered narrative, making it a subject of intrigue and analysis for audiences and critics alike. This report aims to dissect the social and relational dynamics that define the series, offering an insightful journey into the heart of "Better Call Saul."



*Figure 1: The Dichotomy of Jimmy McGill AKA Saul Goodman*

#### Objective:

The primary objective of this report is to analyze the intricate social network within the television series "Better Call Saul." By examining the relationships and interactions between characters, this analysis aims to uncover the underlying social dynamics and character developments that drive the narrative of the series.

#### Background:

"Better Call Saul," a prequel to the critically acclaimed "Breaking Bad," is renowned for its complex characters and intricate storytelling. Set primarily in Albuquerque, New Mexico, it chronicles the transformation of Jimmy McGill, a struggling lawyer, into the morally flexible lawyer Saul Goodman. The series is not just a character study but a web of relationships, each influencing and shaping the course of events. Understanding these relationships is crucial to comprehending the series' broader themes, including morality, ambition, and the American dream. Analyzing the social network of "Better Call Saul" offers a unique lens through which we can view these interactions and their impact on the narrative.

#### Methodology Overview:

This report employs a combination of web scraping and network analysis to dissect the social network within "Better Call Saul." The study is partly inspired by a similar analysis conducted on "Breaking Bad," with this report aiming to mirror and adapt the processes used by the author of that analysis. A significant aspect of this mirroring involves the web scraping process, which was streamlined due to the similarity in

HTML and CSS structures of the websites for both shows. This similarity made it feasible to adapt the web scraping code used in the "Breaking Bad" analysis with significant alterations to suit the specific needs of "Better Call Saul."

The web scraping process involved systematically extracting data from a dedicated fandom page, focusing on character interactions and developments across different episodes. Notably, the motivation for this study stems from the insights provided by the said website, which offers a rich repository of character information and narrative details essential for constructing a robust social network analysis.

Following data collection, network analysis techniques were applied. This involved identifying key characters (nodes) and their interactions (edges), analyzing network structure, and interpreting the significance of these relationships within the context of the show. This methodological approach blends quantitative data analysis with qualitative insights from the series, ensuring a comprehensive view of the social dynamics in "Better Call Saul."

## **Data Collection**

### **Sources:**

Our data was meticulously sourced from the "Better Call Saul" fandom page ([https://breakingbad.fandom.com/wiki/Category:Seasons \(Better Call Saul\)](https://breakingbad.fandom.com/wiki/Category:Seasons_(Better_Call_Saul))), which offers exhaustive information about the show's seasons, characters, and episodes. This site was chosen for its comprehensive and well-organized content, which is pivotal for a detailed social network analysis.

### **Web-Scraping Technique:**

The web scraping techniques employed in this study were primarily derived and adapted from a publicly available codebase on GitHub, specifically designed for scraping "Breaking Bad" data ([https://colab.research.google.com/github/jishnukoliyadan/the\\_breaking\\_bad\\_network/blob/master/Scrapper.ipynb](https://colab.research.google.com/github/jishnukoliyadan/the_breaking_bad_network/blob/master/Scrapper.ipynb)).

The web scraping was executed by employing Python libraries such as BeautifulSoup for parsing HTML content and Selenium for automating web browser interactions. Initially, Selenium's WebDriver was used to navigate the fandom page and extract relevant data, such as episode summaries and character listings, which were then parsed using BeautifulSoup. The code also used regular expressions (re-module) to clean and format strings, ensuring the data was uniform and analysis ready.

### **Data Cleaning and Preparation:**

Post-scraping, the data underwent a thorough cleaning process to eliminate any HTML artifacts, special characters, or inconsistencies that could skew the analysis. This step was crucial in standardizing the data format for subsequent network analysis. The cleaned data included episode links, which were saved for future reference, and character names, which were carefully processed to ensure that each character was consistently identified across all episodes.

The final dataset was then structured into a CSV format, with clear demarcations of seasons and characters. This allowed for a streamlined process when importing the data into network analysis tools, ensuring that the complex web of character relationships was accurately represented and ready for in-depth analysis.

	Source	Destination	Weight
0	Omaha	Jimmy McGill	6
1	Jimmy McGill	Albuquerque	8
2	Albuquerque	Jimmy	7
3	Jimmy	Mike	231
4	Mike	Loyola	10
5	Loyola	Jimmy	12
6	Jimmy	Craig Kettleman	12
7	Craig Kettleman	Jimmy	22
8	Jimmy	Craig	68
9	Craig	Betsy	34

Figure 2: Cross-section of the final dataset

## Social Network Analysis

### Overview of Analytical Methods:

The social network analysis of "Better Call Saul" utilized several computational methods to dissect the complex web of character interactions. Central to our approach was the Python library **networkx** for graph theory and analysis, and **pyvis** for interactive network visualization. Community detection was achieved using the **community\_louvain** module, which implements the Louvain method for identifying high-modularity communities within networks.

### Network Description:

Using **networkx**, we constructed a graph object representing the social network, where nodes correspond to characters, and edges represent interactions between them. Attributes such as edge weight reflected the frequency and strength of these interactions. The **pyvis** library was then used to create an interactive visual representation of the network, allowing for an intuitive exploration of the connections.

In the diagram below, the large yellow node representing Jimmy McGill signifies his central role in the narrative's social network. Jimmy's prominence is highlighted by the number of connections (edges) extending from him to other nodes (characters), which illustrates the breadth of his interactions and relationships within the show. This visual network represents a total of **56 nodes** and **135 edges**, suggesting a rich web of interactions. The Network represent the interaction of characters in the first season of the movie.

The first season of "Better Call Saul" establishes the story of Jimmy McGill, a struggling public defender in Albuquerque, New Mexico, who is trying to make a name for himself as a lawyer. We're introduced to key figures in Jimmy's life, including his brother Chuck McGill, a brilliant lawyer debilitated by a mysterious illness, and Kim Wexler, a fellow lawyer and Jimmy's complex love interest. The season also reintroduces Mike Ehrmantraut, the stoic fixer who later becomes deeply entwined in Jimmy's legal and extralegal activities. As the season progresses, Jimmy begins to interact with more subjects as his twirling tale of self-redemption and his goal to re-establish himself take precedence in the series. Because of the very limited number of pages allowed in this assignment, I have only shown the network for the first season of the series.

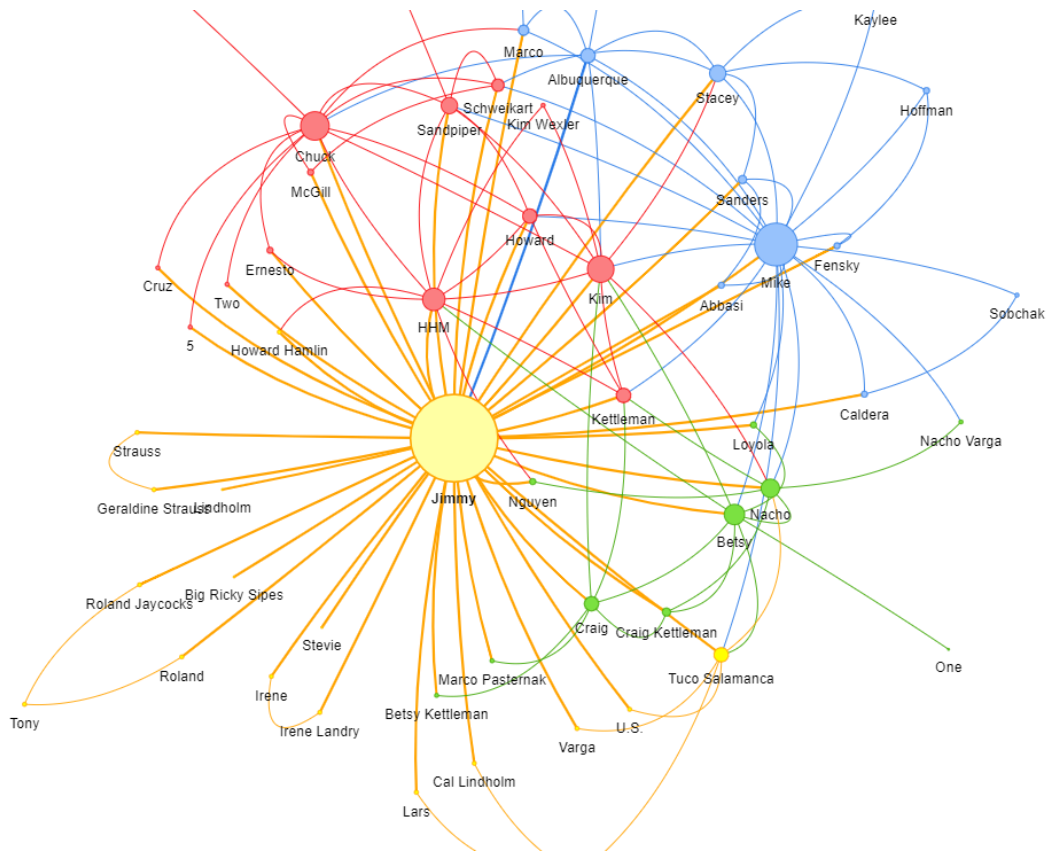


Figure 3: Network Analysis for Season 1 - Better Call Saul

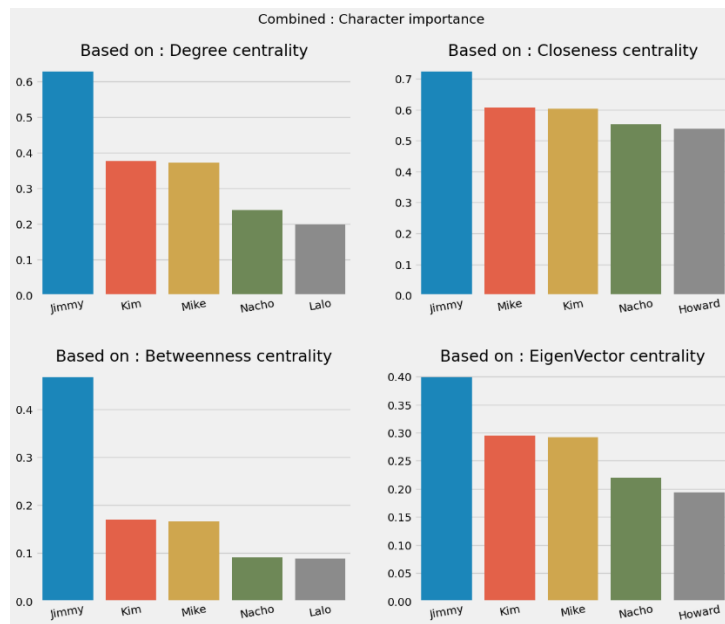


Figure 4: Character Importance Across Different Metrics

This image presents a series of bar graphs that summarize the character importance in "Better Call Saul" based on four different centrality measures: Degree, Closeness, Betweenness, and Eigenvector. Across all measures, Jimmy is consistently the most central character, reflecting his pivotal role in the series. Other characters fluctuate in their rankings depending on the centrality measure, indicating that their roles and influences within the network are more nuanced. Degree centrality helped identify the most connected characters, while betweenness centrality highlighted those who acted as bridges within the story. Closeness centrality measures the proximity of a character to all others in the network, indicating potential influencers or central figures. Eigenvector centrality was used to determine the influence of a node based on the number of links it has to other nodes within the network.

### Community Detection:

The community detection process partitioned the network into clusters of characters, revealing the existence of closely-knit communities within the narrative. This was particularly insightful for understanding the structure of relationships and alliances that form throughout the series. The Louvain method was instrumental in detecting these communities, providing an algorithmically sound approach to uncovering the layered social fabric of "Better Call Saul.". There appear to be 5 distinct communities across the entire series.

1. **Jimmy's Community:** As the protagonist, Jimmy is at the heart of the series' primary narrative. His community includes characters he frequently interacts with, such as his clients, his brother Chuck, and other legal professionals. This community is central to the show's exploration of Jimmy's moral journey and transformation into Saul Goodman.
2. **Gus Fring's Community:** Gus is a major player in the drug trade, so his community consist of those involved in his criminal enterprises, like his henchmen, business partners, and adversaries. This community's storyline revolves around the methamphetamine business and the power struggles within it.
3. **Kim's Community:** Kim's community would be centred around her legal career and her complex relationship with Jimmy. She often finds herself in conflict between her professional ethics and her loyalty to Jimmy, which defines the community and the related storylines.
4. **Mike/Lillian Simmons' Community:** Mike's community extends to his role as a fixer for Gus and his own life, which involves characters like his daughter-in-law and granddaughter. Lillian Simmons, not being a central character in the series, could represent minor characters or external entities that occasionally intersect with the main characters, impacting their decisions and actions.
5. **Albuquerque's Community:** This community encompasses the broader set of characters representing Albuquerque's society, including law enforcement like Hank Schrader, legal professionals, and other residents. This community ties into the larger setting and context of the series, affecting and being affected by the actions of the central characters.

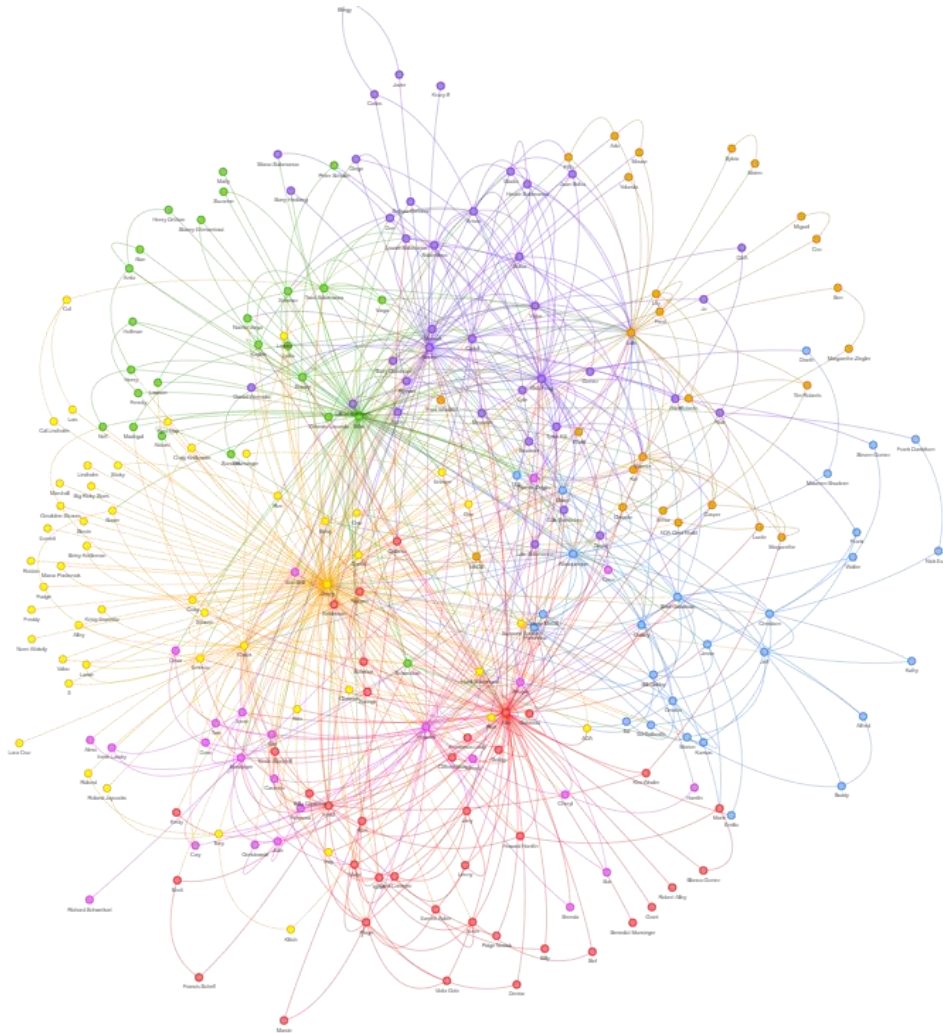


Figure 5: Combined Network the entire series

## Character Analysis:

The line graph illustrates the changing narrative significance of characters in "Better Call Saul" across seasons, using Eigenvector centrality as a measure. Jimmy's prominence throughout aligns with his lead role. Chuck's centrality declines after Season 3, reflecting his character's exit following his death. Kim's increasing involvement in the plot is marked by a centrality peak in Season 5. Howard's centrality surges in Season 6, likely due to key plot events, while Gus and Lalo become more central as their roles in the criminal storyline expand, impacting the series' direction. We have decided to focus on just the Eigen Value centrality because the result is pretty much consistent across the other metrics.

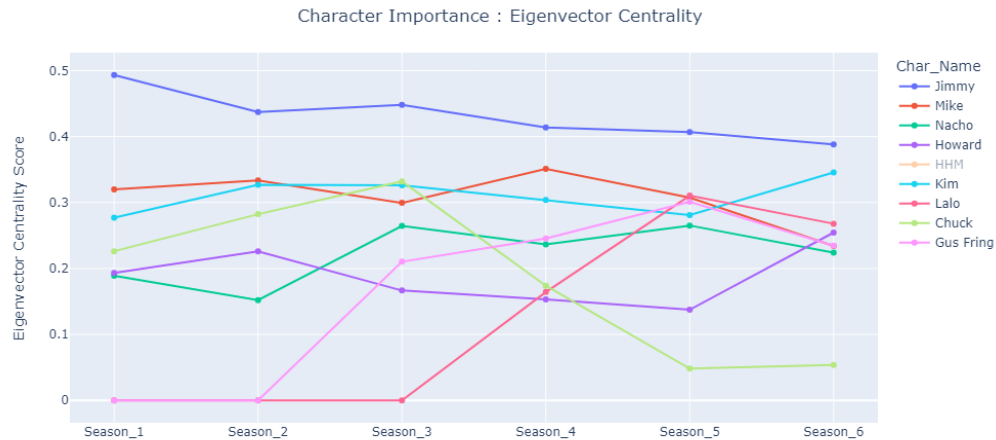


Figure 6: Character Importance

## Correlation Analysis of Centrality Measures

The heatmap visualizes the correlation between various centrality measures within the "Better Call Saul" character network. Degree and PageRank centrality are highly correlated, indicating characters with many connections are also often central within the network's flow. Eigenvector centrality correlates strongly with Degree, suggesting influential characters are connected to other influential characters. Closeness centrality has a moderate correlation with other measures, reflecting that physical proximity within the network does not always coincide with influence or connectivity. Betweenness centrality, while highly correlated with Degree and PageRank, is less so with Closeness, highlighting its unique role in identifying characters as crucial links between different clusters within the network.

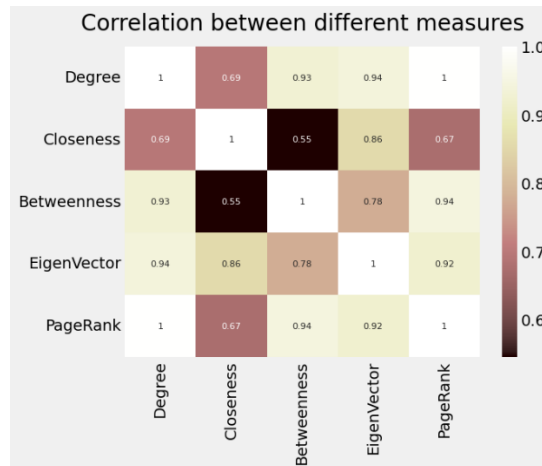


Figure 7: Correlation Analysis of Centrality Measures

Note: Codes are all provided in the submission. 1. Web-scraping code 2. Network Analysis Code