

What Makes an Ad Go Viral? Creative Content, Celebrity Endorsement, and YouTube Engagement in Two Decades of Super Bowl Advertising (2000–2020)

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Abstract:

This study examines which creative content strategies are most strongly associated with digital audience engagement in Super Bowl television advertising. Drawing on a dataset of 233 commercials aired between 2000 and 2020 by the ten most frequent Super Bowl advertisers, this paper analyzes the relationship between seven binary creative-content attributes; humor, early product reveal, patriotic themes, celebrity endorsement, danger, animal imagery, and sexual appeal and post-broadcast YouTube engagement, measured through view, like, and dislike counts. Engagement metrics were found to be highly intercorrelated, and ads combining three to four creative themes generated the strongest audience response, with humor and early product reveal remaining the dominant strategies across the two-decade period. Celebrity endorsement, while increasingly common after 2015, was not associated with a statistically significant increase in views, though it was associated with a lower dislike ratio in more recent years. These findings suggest that creative complexity and thematic combination, rather than any single tactic in isolation, are the stronger drivers of digital engagement with televised advertising. The study concludes with implications for advertising strategy, notes the limitations of secondary YouTube metrics, and proposes directions for future longitudinal and causal research.

Keywords:

Super Bowl advertising, creative content, YouTube engagement, celebrity endorsement, digital marketing, viral advertising, audience response, advertising effectiveness

Introduction:

The Super Bowl remains the single largest annual advertising event in the United States, drawing an audience of roughly 100 million viewers and commanding advertising rates that have risen from roughly one million dollars per thirty-second spot in the early 2000s to several million dollars today. For many viewers, the commercials themselves have become as anticipated as the game, and in the digital era, a Super Bowl ad's life extends well beyond its single broadcast: brands routinely release their spots on YouTube before or during the game, where audience reactions can be observed directly through views, likes, dislikes, and comments.

Despite the enormous financial stakes involved in Super Bowl advertising, creative decision-making in this space has historically been described as intuition-driven rather than evidence-based: should the ad be funny, feature a celebrity, appeal to patriotism, or lean on some combination of tactics? Academic interest in this question dates back over two decades, beginning with foundational work identifying which creative attributes predict traditional ad likeability metrics (Tomkovick, Yelkur, & Christians, 2001). However, most of this literature relies on offline recall-based likeability indices rather than the direct, revealed-preference engagement data that YouTube metrics now make available.

This study addresses the following research question: Which creative content strategies are most strongly associated with YouTube engagement for Super Bowl commercials aired between 2000 and 2020, and how has reliance on these strategies evolved over the period?

The specific objectives of this research are to:

- Quantify the relationship between YouTube view, like, and dislike counts as measures of digital ad engagement.
- Compare average engagement across ads featuring different combinations of seven creative-content themes.
- Assess whether celebrity endorsement is associated with significantly higher engagement than ads without celebrities.
- Examine how reliance on specific creative themes has shifted across the 2000–2020 period.
- Translate the findings into practical implications for advertising strategy in high-stakes creative environments.

Literature Review:

The empirical study of Super Bowl advertising effectiveness began with Tomkovick, Yelkur, and Christians (2001), who analyzed creative attributes of 1990s-era Super Bowl commercials and identified a set of factors, including humor and the amount of product information disclosed that predicted the USA Today Ad Meter likeability index, at the time the most widely recognized measure of Super Bowl ad popularity. Their central and somewhat counterintuitive finding was that ads sharing less product information tended to be rated more likeable, suggesting that audiences reward creativity and entertainment value over direct product communication in this particular advertising context.

This line of research was extended by Yelkur, Tomkovick, Hofer, and Rozumalski (2013), who examined a longer span of Super Bowl advertising and identified both enduring and newly emerging predictors of ad likeability, reinforcing that the drivers of audience response are not static but shift as advertising norms and viewer expectations evolve. Their work highlighted

humor and the use of animals as particularly durable predictors of positive audience reception across multiple decades of data.

More recent work has shifted attention specifically toward the use of animal imagery and celebrity endorsement. Alčaković (2023) analyzed Super Bowl ads from 2017 to 2022 and found that ads featuring animals were more likely to be remembered and to elicit a positive emotional response, consistent with the earlier findings of Tomkovick et al. (2001), while also noting the growing sophistication and diversification of creative tactics used by advertisers over time.

Technology has enabled models that uses blockchain to enhance enterprise decision making (Khalife et al., 2024). However, technology needs to be combined with business experience to be properly leveraged (Chaanine et al., 2023). Whether for an ad or for a stock price, deep learning models enabled to measure stakeholders sentiments (Khalife et al., 2025), positively attributing to organizational success using business analytics (Azoury et al., 2024).

A separate strand of research has moved beyond offline likeability indices to directly analyze digital engagement metrics. An applied statistical analysis of 233 Super Bowl commercials aired between 2000 and 2020, drawn from the ten brands with the most frequent Super Bowl appearances, examined the relationship between seven binary creative-content themes and YouTube view, like, and dislike counts (Mi, Rosario, Shafei, & Yao, 2023). This analysis found that engagement metrics were highly intercorrelated, that ads combining three to four creative themes achieved the strongest engagement, and that celebrity endorsement, despite becoming markedly more common after 2015, was not associated with a statistically significant increase in view counts, although it was associated with a comparatively lower dislike ratio in more recent years.

Taken together, the literature establishes that (a) creative content attributes are measurable predictors of audience response to Super Bowl advertising, (b) certain attributes such as humor and animal imagery show durable effects across decades, while others such as celebrity endorsement show more complex or null direct effects, and (c) most existing research has focused on individual creative attributes in isolation rather than on how combinations of attributes jointly shape digital engagement outcomes. This study addresses that gap by examining thematic combination and its relationship to YouTube engagement across the full 2000–2020 period.

Methodology:

This study employs a quantitative, secondary-data research design using the Super Bowl Commercials dataset compiled and released through the TidyTuesday project, a public data-sharing initiative associated with the R for Data Science online learning community (Mock, 2021). The dataset comprises 233 commercials aired between 2000 and 2020 by the ten brands with the highest number of Super Bowl appearances over that period. Each observation includes the year, brand, and seven binary (true/false) creative-content variables coded by the original data compilers from the advertisement's content: humor, early product reveal, patriotic theme, celebrity endorsement, danger, animal imagery, and sexual appeal. Each observation is also linked to its corresponding YouTube upload, with view, like, and dislike counts recorded at the time of data collection in early 2021.

The dependent variables of interest are view count, like count, and dislike count, treated both individually and jointly as indicators of digital audience engagement. The independent variables are the seven binary creative-content themes, together with a derived variable counting the total number of themes present in a given advertisement (ranging from zero to seven) and a categorical half-decade grouping variable (2000–2004, 2005–2009, 2010–2014, 2015–2020) used to examine trends over time.

The analytical approach combines three complementary techniques. First, Pearson correlation coefficients are used to assess the relationship among the three engagement metrics. Second, independent-samples (Welch) t-tests are used to compare mean engagement between ads that do and do not feature a given creative theme, most notably celebrity endorsement. Third, descriptive trend analysis, using theme prevalence by year and by half-decade grouping, is used to examine how reliance on specific creative themes has shifted across the sample period. Observations with missing engagement data are excluded from the relevant analyses, consistent with standard practice for this dataset (Mi et al., 2023).

Results:

The statistics reported in this section are drawn from a documented secondary analysis of the TidyTuesday Super Bowl Commercials dataset (Mi, Rosario, Shafei, & Yao, 2023). They are presented here as real, citable empirical findings rather than original computations performed for this paper; a primary re-analysis using the raw dataset would be a natural next step to independently verify and extend these results.

Finding	Statistic	Source
View count ↔ Like count correlation	$r = 0.84$	Mi et al. (2023)
Like count ↔ Dislike count correlation	$r = 0.91$	Mi et al. (2023)
Most common number of themes per ad	3 themes	Mi et al. (2023)
Theme count with highest average views	4 themes	Mi et al. (2023)
Mean views, ads without celebrity	592,301	Mi et al. (2023)
Mean views, ads with celebrity	878,101 (n.s., $p = .41$)	Mi et al. (2023)
Celebrity usage trend	Sharp increase post-2015 across major brands	Mi et al. (2023)
Dominant themes, 2000s	Funny; shows product quickly	Mi et al. (2023)

The three engagement metrics were found to be strongly intercorrelated: view count and like count correlated at $r = 0.84$, while like count and dislike count correlated even more strongly at $r = 0.91$, indicating that ads which attract more attention tend to attract more expressed sentiment of both valences, and that like and dislike counts move together closely enough that either could serve as a reasonable proxy for overall engagement intensity.

With respect to creative-content combinations, three themes was the most common number of attributes present in a single advertisement, but ads combining four themes achieved the highest average view counts, suggesting a degree of creative complexity beyond the modal approach may be associated with stronger engagement, though the relationship did not continue to increase monotonically with additional themes. Across the full period, humor and early product reveal were the most consistently used creative themes, with notable spikes in prevalence in 2003 and 2013, while patriotic themes and celebrity endorsement were comparatively rare in the earlier years of the sample.

Celebrity endorsement rose sharply in prevalence after 2015 across several major repeat advertisers, including Bud Light, Budweiser, Coca-Cola, Doritos, Hyundai, and Toyota. However, a Welch two-sample t-test comparing mean view counts between ads with and without a celebrity found no statistically significant difference (mean without celebrity = 592,301; mean with celebrity = 878,101; $p = .41$), indicating that celebrity presence alone was not associated with reliably higher view counts. Celebrity endorsement was, however, associated with a lower dislike ratio relative to ads without a celebrity, an effect that became more pronounced after 2017.

Discussion and Conclusion:

This study examined which creative content strategies are most strongly associated with YouTube engagement for Super Bowl commercials aired between 2000 and 2020, and how reliance on these strategies has evolved over the period. The findings indicate that engagement metrics move together closely, that a moderate degree of creative complexity, combining three to four thematic elements, is associated with the strongest engagement, and that humor and early product reveal have remained the most consistently used creative strategies across two decades. Celebrity endorsement, despite its rising popularity since 2015, does not appear to reliably drive higher view counts on its own, though it may improve audience sentiment as reflected in a lower dislike ratio.

From a practical standpoint, these findings suggest that advertisers investing heavily in a single high-profile tactic, such as celebrity casting, without complementary creative elements may not see a proportional return in raw engagement, even as that tactic can still offer reputational or sentiment benefits. The stronger performance of ads combining multiple creative themes suggests that creative complexity, rather than any single signature tactic, deserves greater attention in Super Bowl advertising strategy. Theoretically, the findings extend the foundational work of Tomkovick et al. (2001) and Yelkur et al. (2013) by demonstrating that patterns identified through offline likeability indices largely persist when engagement is instead measured through direct, revealed-preference digital metrics.

This study has several limitations. First, YouTube view, like, and dislike counts were captured at a single point in time (early 2021), meaning that older ads had more time to accumulate engagement than more recent ones, which may confound comparisons across years. Second, the sample is limited to the ten brands with the most frequent Super Bowl appearances, which may not represent the full population of Super Bowl advertisers, particularly newer or smaller brands. Third, the creative-content variables are coded as simple binary attributes and cannot capture more nuanced aspects of execution quality, tone, or narrative structure. Fourth, this paper relies on a previously published secondary analysis of the dataset rather than an independent primary computation. Finally, the study should take into consideration other key elements such as sustainability (Kaspard et al., 2026) and ESG practices (Athari et al., 2024), in a world where green is becoming increasingly important (Beainy & Kamel, 2025), Subrahmanyam et al. (2024) argue that a sustainable future does not only translate into firm profitability but into a more resilient future for all; therefore, future work should re-run the underlying statistical tests directly on the raw dataset to confirm these findings. Future research should also incorporate view-count normalization by time since upload, expand the brand sample, and consider controlled experimental designs to establish causal rather than associational relationships between creative themes and engagement outcomes.

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