

When Motivated Reasoning Mediates Agenda Setting: Effects in the 2012 Republican
Presidential Primaries

Abstract

Media influence how the public evaluates issues and candidates. Issues and attributes covered in traditional media tend to be the same issues and attributes the general public perceive to be important. Yet, at an individual level we all have certain preferences and biases that impact the salience of agendas.

Motivated reasoning suggests that audiences are inclined to choose agendas that reinforce beliefs. Agendas that are not congruent are typically scrutinized and refuted. This study controls for those with prior negative beliefs, and those without. The moderate ideology of Mitt Romney is examined. Initially, through a macro-level analysis of all users on Twitter, the media coverage appears to influence the general public.

From the data, “supporters” for each of the top five Republican candidates were pulled-out and put into test groups. The assumption was made that those who vocally support Romney the most, prior to the news coverage, would apply motivated reasoning and ignore the news coverage. This study finds that supporters who already opposed Romney accepted the attribute, while those who supported Romney ignored it almost completely.

These findings are then compared against the Gallup daily tracking poll for the candidates. Here it is found that Twitter appears to agree with public opinion polls. Romney did not lose support from those with conservative ideologies. Instead, he appeared to gain support from those Republicans who identified themselves as moderate and liberal. In conclusion, it appears that motivated reasoning can work in concert with agenda-setting theory to explain media effects.

Introduction

One of the many issues covered in the 2012 Republican presidential primaries was that of ideology. In online newspapers, a significant amount of coverage was dedicated to the investigation of each candidate's conservative credentials. Newt Gingrich was quoted in the newspapers across the country, discrediting Mitt Romney's conservative credentials with quips such as "Moderate Mitt" and "Massachusetts Moderate." Each time Gingrich spoke about Romney's moderate ideology, a significant amount of news coverage was generated.¹ If just measured in the number of news stories printed, Gingrich had success with framing Romney as moderate in the media.

While perhaps counterintuitive to Gingrich's intentions, an initial analysis of the Gallup public opinion poll supports this notion. Each time Romney was framed as moderate, he gained support from moderate Republicans (See Figure 5). But for this study the focus is on what Romney gained, but on what he did not lose. Gingrich's intent, of course, was to activate concern among Romney's conservative base. Again, the Gallup Poll is clear. Romney did not lose conservative support (See Figure 4).

The question is then presented: why did the framing attempt by Gingrich have the exact opposite effect intended? This study embraces the public micro-blogging service Twitter to discover what the media and public had to say about the issue during the Republican presidential primaries.

Background

The Attribute: Moderate Mitt

Conceptually in agenda-setting theory, the issue of Mitt Romney being moderate is not an issue at all. Instead, the label of moderate that was applied to Romney is perhaps better labeled as an attribute, which was associated with him in the campaign. Second-level agenda-setting theory describes an attribute as any describing characteristic of an issue, or object (McCombs, 2004). The object Romney was given many attributes for the duration of the campaign.²

For this study, the focus is on one attribute that appeared to be the direct result of a framing attempt by Gingrich. Gingrich amounted Romney as too centric (Shear, 2012). The strategy seems straightforward. Calling Romney a moderate Republican was a direct tactic to arouse concern in conservative Republicans. At the time, Romney was a leader among conservative Republicans. In initiating an attack on his conservative ideology, Gingrich hoped to free up some support for his conservative-based platform.

The reader knows the end result for Gingrich. But despite his failed candidacy, this attempt at framing an attribute has a unique story to tell. Why was the framing effort by Gingrich unsuccessful? The theories of agenda setting and motivated reasoning are used in this study to explain voter reactions.

Literature Review

Agenda Setting: A Brief Overview

Agenda-setting theory is applied here, because it investigates if the media control what topics the general public holds salient. This key conceptual definition of salience is the cornerstone of this paper (McCombs & Shaw, 1972). Agenda-setting theory has continued to evolve since its conception. Since the theory is so well established, it would require great length to cover all of the developments agenda setting has undergone since its origination. Instead, this paper first highlights second-level agenda-setting studies, the most substantial recent expansion of agenda-setting scholarship. Additionally, the recent corpus of works involving agenda setting and other social and digital media sites is discussed.

Understanding the measurement of salience

Salience is the key measurement in agenda-setting studies (McCombs, 1999). Virtually all agenda-setting studies include two measures of salience: one for the media and one for the public. Whether calculated as simple one-measurement variables or as more complex multivariate constructs, agenda-setting studies measure the salience of particular news issues in the media and the salience of those same issues in people's perceptions (McCombs, 2004).

The word salience generally can be defined as importance in seminal agenda-setting research. In this way, scholars like McCombs (1994) explain the concept of the media's salience for issues, or media salience, as the calculation of various news cues such as placement, size of headline, length and topic repetition. These measurements all indirectly indicate how important an issue was perceived to be in the news. For the measure of public salience, agenda-setting scholars have used public opinion polls conducted by third party polling services like Gallup and Roper to determine how the public feels about issues (Funkhouser, 1973; Moon, 1999).

These measurements of what the press is talking about and what people are talking about over time serve as media and public agendas. Without these measurements and a time dimension, the agenda-setting effect cannot be empirically measured. Without measurement, no effect is shown.

For the sake of this study, a measurement of media coverage calling Romney moderate will need to be calculated. Then, a separate measurement of public opinion, showing that people thought Romney was moderate, will also need to be calculated.

Second-Level Agenda Setting

The seminal second-level agenda-setting study examined elections in Navarra, Spain, in 1995 (McCombs et al., 1997). This substantive expansion of agenda-setting was the first study to combine the first level of agenda setting with ideas from existing framing research in political science and psychology. In this way, second-level agenda setting goes beyond just tracking the salience of news objects (stories).

“The focus is not on coverage of objects but on coverage of attributes of those objects.

Second-level agenda setting argues that the *attributes linked to the object* in the news media are mentally linked to the object by the public. Thus, while first-level agenda setting suggests media coverage influences what we think about, second-level agenda setting suggests media coverage influences how we think, or frame, the issues about which we are thinking” (Craft & Wanta, 2004, p. 456).

Different types of attributes have been shown to frame public opinion in second-level agenda-setting studies. Attributes include: subtopics, framing mechanisms, affective elements and cognitive effects (McCombs et al., 1997; Craft & Wanta, 2004; Ghanem, 1997). These attributes can affect the way the public perceives issues.

This paper serves as an analysis of one attribute, Moderateness, and one object, Romney. This attribute is one directly tied to ideology. This is important because ideology is a construct in which audiences identify themselves. This is so much the case that, aside from basic demographic questions such as age, sex, location and education, ideology is the only other question asked of respondents in the Gallup Poll. Here, there is an assumption that people with different ideologies have different opinions on popular social and political issues. While it is not the topic of this paper to go into the differences of ideology in the 2012 Republican presidential primaries, the assumption is made that ideology is an attribute that carries heavy weight. One candidate changing his or her ideology from conservative to moderate should have real circumstances as to how he or she is received in voting polls.

This analysis shows the salience in which this attribute of ideology was passed from media to the public.

Social & Digital Media Agenda-Setting Studies

Newer agenda-setting research has incorporated methods that harness data from social and digital media. These articles build an argument for Twitter as a measure of media *and* public salience.

A preliminary study of agenda setting and the social and digital media service YouTube, Sayre et al. (2010), investigated if, when and to what degree videos posted on YouTube may have led or followed traditional news media. They looked at one specific issue: California's Proposition 8, a controversial ballot proposition that would redefine the laws of marriage. The study took daily salience measurements for relevant stories in national cable news programs, national newspapers and YouTube video uploads. The study then applied an ARIMA time-series analysis to the three frequency counts and identified when and how traditional media led or followed YouTube content.

While the findings had no single time-series model that could fit the entire 14 months in which the study was conducted, some significant conclusions could still be drawn. YouTube was found to both follow and lead. Prior to the day during which the public voted on Proposition 8, YouTube public salience followed mainstream media salience. However, following the election, YouTube public salience was found to lead the way. Speculation aside, the change seen immediately following the vote could not be empirically explained.

In another investigation of public salience, Google Trends was operationalized (Weeks & Southwell, 2010). In this study, mainstream media was compared to Google Trends, a free tool that shows the number of times Google users search for certain keywords. This study explored the potential relationship between mainstream media coverage of a particular political rumor – Barack Obama’s being Muslim – and its public salience as measured by online search behavior. The results showed that mainstream media coverage, especially television coverage, influenced Google Trends’ data reflecting public salience of the political rumor. This study supports and reinforces the original definition and suggests that mainstream media still have the power to influence issue salience of other media. The study also shows that the results of agenda setting were most greatly seen the same day (Weeks & Southwell, 2010). Researchers have concluded by calling for the need to investigate possible variables that may have affected the correlation between Google Trends and the traditional mainstream media. They cited blogs as a possible mediating source. The study opens the possibility that reporters and writers for mainstream media could be influenced by blogs they read. Such research acts as an invitation for an agenda-setting investigation to be conducted on new media such as blogs.

Twitter & Agenda-Setting Theory

While all of the aforementioned social media vary in exact design and use, generally, they have been perceived as tools with which communities of people interact online. The micro-blogging service, Twitter is the single best example of a popular social medium that is also public (Vieweg, 2010). This is different to the type of engagement seen on other social media that use internal conversations that are intended to be private (person-to-person) or semi-private (person-to-friends) (Kwak et al., 2010). When treated as private or semi-private, social media come with expectations of confidentiality and privacy. Sites such as Facebook, which adopts this model of private or semi-private communication, faces pressure to increase its privacy efforts. Twitter has avoided this issue by placing an emphasis on being a public medium. Twitter pays little attention to privacy when it comes to the distribution of the messages that users post. Twitter pegs itself as: "...a platform for you to influence what's being talked about around the world. Search results spread across Twitter and in other ways across the Web so you can discover what's happening on and off of Twitter.com (About Us, 2010)."

The overwhelming majority of Twitter accounts are created for public viewing. Free for all to see, search and analyze, general accounts are as public as Web pages or blogs. Making public what once was treated as private, Twitter has taken social networking and progressed it into a scalable and knowable body of information. Twitter's body of knowledge should now be considered part of the ever-changing media landscape.

Today, 17 million Americans actively use Twitter at least once a week. While the ages and demographics of users are not quite even, they are approaching a more even equilibrium (Webster, 2010). Smith (2011) has surmised that 13 percent of all online adults use Twitter in the

U.S. More importantly, the reason why this social networking tool lends itself so well to data analysis is because virtually all of the Tweets on Twitter are searchable and quantifiable.

In addition to people, all of the top 50 United States newspapers currently broadcast the headlines of their stories via Twitter. This also holds true for different types of media, such as talk shows, cable news networks and even individual journalists. With Twitter, one can aggregate and measure news in ways similar to traditional news archiving services, such as LexisNexis or ProQuest. While the full stories are not broadcasted in their entirety, it is possible to retrieve the full stories by following the link on each Tweet.

Various search tools have been created using Twitter's Application Program Interface (API) that track trends, daily mentions and keywords on Twitter. These tools make Twitter a viable option for social science quantitative research (Java, 2007). Because of the abundant amount of rich data that is available on Twitter for all to use it is a viable measurement of public and news media's agendas. Indeed, emerging scholars have begun to use Twitter to measure the agenda-setting functions, and have found relationships similar to the scholars using other digital measures, such as YouTube and Google Trends (Vargo, 2011).

Motivated Reasoning Theory

Looking at the poll results (Figure 4 & Figure 5), agenda setting looks likely. Both the media and public seem to spike together. Yet, a disconnect appears when you consider the public opinion poll. If the agenda had passed into the public, conservative voters should have responded to Gingrich's framing attempt just as the more moderate Republicans did. One assumes that if a conservative Republican accepted the news coverage labeling Romney as moderate, this dissonance would have been enough to sway at least a small number of conservatives away from Romney. The polls refute this assumption. ³

A theory from psychology is borrowed to help explain the phenomenon. The theory of motivated reasoning suggests that certain audiences, when entrenched in beliefs, scrutinize arguments that go against the beliefs they already hold (Kunda, 1990). The theory provides evidence of a psychological defense that allows people to employ stronger scrutiny for those framing attempts that go against their established beliefs. Obviously, this idea is powerful and has its limitations. A person cannot simply refute any persuasion attempt flatly, but instead, subjects frames that go against held beliefs to a more strict scrutiny. Often this scrutiny is limited to the person's ability to construct arguments as to why the new frame is inaccurate, biased or false. The fact Gingrich was *often quoted directly* in the news as calling Romney moderate could have employed such a defense by Romney supporters. If entrenched enough in their stance, it is conceivable that Romney supporters might ignore quotes from opposing candidates based on the belief that the opposing candidate may be biased or untruthful.

Conversely, motivated reasoning also makes a prediction about those not as entrenched in their beliefs or those who are at less odds with the new frame. These people may apply less scrutiny, and have a more likely probability of accepting the new information. Their motivation to justify and scrutinize is much lower, and therefore, the odds of acceptance are much higher.

Hypothesis

Before different audiences are addressed, it must first be determined that the media coverage around the frame was salient enough to warrant investigation. Next, if the coverage had enough salience, it must be confirmed that the media coverage influenced the public salience of the attribute. This expected agenda-setting effect is similar to one observed in other recent studies that incorporated digital and social media measurements of media salience and public salience (Weeks et

al., 2010; Sayre et al., 2010; Vargo, 2011). These studies all agree with the general body of agenda-setting work that states that media salience should be a predictor for public salience.

For this initial investigation, Twitter is used as the measure of media salience and public salience.⁴ Adopting this logic of salience transfer, this paper expects that the salience of news coverage that addresses Romney as moderate will transfer to the number of people on Twitter that mention Romney as moderate.

H1: The media salience on Twitter of Romney as a moderate will predict the public salience on Twitter of Romney as a moderate.

Next, the attribute's salience is investigated with more detail. Is the salience for Romney being moderate present among Romney supporters on Twitter? This paper expects to find less of a salience transfer for the attribute among those who strongly support Romney. If this is the case, this author posits that supporters of Romney employed motivated reasoning to scrutinize and ultimately disregard the news coverage.

H2: The media salience on Twitter of Romney as a moderate will have no effect on the number of conservatives intending to vote for Romney.

Conversely, for those audiences not supporting Romney, it must be assumed that the motivation to refute the news coverage will be less. To test this, supporting groups are constructed for the four other most popular Republican candidates: Rick Perry, Rick Santorum,

Newt Gingrich and Ron Paul. These audiences are expected to have stronger degrees of salience transfer from the media.

H3: The percentage of people who mention Romney as a moderate will be substantially less among Romney supporters as compared to supporters of other candidates.

Data

Twitter: A searchable body of news media & public opinion

For this experiment, one independent and eight dependent variables are analyzed. For an overview of the variables and their origins see Figure 8. As mentioned, the majority of the data from this analysis comes from the micro-blogging service Twitter. Twitter is the single best example of a popular social medium that is also public (Vieweg, 2010). The overwhelming majority of Twitter accounts are created for public viewing. Various search tools have been created using Twitter's Application Program Interface (API) that track trends, daily mentions and keywords on Twitter.

The data collection period ran for 60 days, from Dec. 14, 2011 to Feb. 12, 2012. The time period of two months was chosen to satisfy a requirement of at least 30 data points, an amount beneficial for a significant ARIMA Time Series Model (Sayre et al. 2010). From Jan. 13 through Jan. 15, the Twitter API was inaccessible from campus servers due to a power outage.

Independent Variable: Media Salience

To discover an agenda-setting relationship, two variables needed to be constructed. Media salience, a variable that measures the amount of coverage the attribute received over time

in popular U.S. media, is the independent variable. The dependent variable, public salience, is a measure of public acknowledgement of the attribute.

To retrieve a measure of media salience, the top 44 U.S. newspapers (see Figure 1) were tracked, and for 60 days, all Tweets were downloaded. Then, a Web crawler was used to fetch the corresponding documents from hyperlinks in the Tweets. Finally, these documents were indexed with the Indri search engine. In an effort to only include articles that had some mention of Romney or of the primaries, a search was crafted to isolate articles that were likely to be relevant. Every article that included the words “Romney,” “Gingrich,” “Republican,” “Primary” or “GOP” in the title of the article was included in the database. Initially, 3,221 articles were identified. Upon initial inspection, 984 of the articles came from one news source, The Washington Post. The researchers believe that this occurred due to The Washington Post’s politically aligned news reporting beats. To avoid an oversampling of The Washington Post’s agenda, an average was calculated for the remaining 43 newspapers. Each newspaper broadcasted an average of 50 news articles that were identified through our search. A quick inspection confirmed that this was more or less the case, as every other newspaper had 25 to 100 news stories in the sample. This average gave The Washington Post equal weight with other newspapers. 50 of the 984 Washington Post’s news articles were randomly selected to proceed to the content analysis.

With this adjustment, a new total of 2,254 articles were identified. Of these documents, 1,127 (50 percent) of the news stories were randomly selected for a content analysis. The procedure was designed to detect a presence of the object (Mitt Romney) and of the attribute of his moderate ideology.⁵ From here, a search string was crafted, to examine the remaining 50 percent of the documents. All 2,254 articles were searched via Indri with the query “Moderate Mitt,” OR “Moderate” and “Romney.” When a count of the matching documents and their corresponding

publishing dates were compared to the manual content analysis, the correlation was high. Figure 9 reveals their tight correlation. A person correlation reveals a $r = .824$ correlation (sig. 000). Given the search queries' exhaustiveness, these results were used as the measure of media salience.

Dependent Variable: Overall Public Salience on Twitter

Given the agenda-setting hypothesis, it would be expected the amount of news coverage to predict the general public salience. Thus, a measure of the entire pulse of the "Twitterverse" is needed. The Twitter Streaming API retrieves a random sample of the Tweets by keywords. Tweets that mentioned the terms 'moderate' and 'Romney' were retrieved. From this corpus, any entries that mentioned any candidate besides Romney or Gingrich was removed. This way it could be made more certain that the 'moderate' attribute was associated with Romney and not another candidate. Then, any Tweets originating from top news sources were removed from the corpus.⁶

Finally, a measurement of the number of unique users tweeting about the issue per day was taken from the remaining corpus and labeled as public salience. This way, even though there were undoubtedly extraneous organizations still inside of the sample, the relative inflation was low compared to the large number of people who have a presence on Twitter.

An Alternative Measure of Public Salience: Top Supporters of Candidates Twitter

A straightforward approach was used for sentiment detection. The initial corpus of Tweets was separated into one corpus per candidate. 11 days of Tweets from the streaming API was used, ranging from: December 15th, 2011 to December 25th, 2011.⁷ To avoid misattribution of affect to another candidate, all Tweets were removed that mentioned an opposing candidate, or Barack Obama.⁸ On average, this reduced the number of Tweets by a third.⁹ A term frequency

list for each dataset was generated.¹⁰ Across all lists, terms were not found to be specific to the candidate to the degree that would require separate lexicons for each candidate.¹¹ I manually annotated each list. If a word had a dictionary definition that was clearly associated with positive, or negative, that word was added to the matching Sentistrength wordlist. This process was repeated until 40 words from each list were added to the wordlists. A total of 200 words were added. After three accuracy evaluations of 100 randomly selected Tweets, the algorithm was found to be 76.7 percent accurate in predicting the correct polarity, positive or negative, of any given Tweet.¹² The decision of whether a Twitter user was a supporter or not would ultimately hinge on multiple sentiment judgments. Therefore, a 78% was deemed acceptable.¹³ Accuracy was then computed by manually validating 300 randomly selected judgments.¹⁴

Each user then received an averaged sentiment score for each of the top five candidates: Romney, Gingrich, Santorum, Paul and Perry.¹⁵ Next, a pivot table was created that controlled for the average sentiment for a given user, toward a given candidate.¹⁶ Then, a one-way t-test addressed the average sentiment. The number of total measurements, or the number of total Tweets for that user in the corpus minus one was used as the degrees of freedom. The averaged sentiment was tested to discover if the measure of sentiment could be deemed significantly greater than zero, given $p = .1$. Users who passed the t-test were assigned as supporters for each candidate.

For the time of eleven days, Gingrich had 137 supporters, Paul had 370 supporters, Perry had 147 supporters, Santorum had 54 supporters and Romney had 158 supporters. This method passed a face validity check. A random sample of 20 supporters for each candidate, 100 total, were chosen. Tweets from that time period were inspected for their support of that candidate. 96 of the 100 users showed positive support for the candidate in which they were chosen.

Another Alternative Measure of Public Salience: The Gallup Daily Tracking Poll

Another measure dependent variable was tested using the motivated reasoning hypothesis. During the 2012 primaries, the Gallup Organization provides a daily tracking poll of registered Republicans and Independents. In addition to asking current candidate preference, the poll also asks the respondent's ideology. From the number of Republicans who responded in favor of Romney, those with conservative and moderate ideologies were tracked. This measurement at a given point of time represents public salience for the sake of this study. For the 60 days observed, the poll was conducted a total of 10 times.¹⁷

Method

For an agenda-setting effect to occur, there must be evidence to support a transfer from media salience to public salience (Weeks et al., 2010). To detect this possible transfer, an analysis of the variables associated with media salience and public salience had to occur. More specifically, time-series analyses for the key IV and DV must be calculated. An ARIMA time-series modeling analysis sufficiently evaluated the effective predictability of media salience (IV #1) and overall public salience (DV #1).

ARIMA analysis is synonymous with agenda setting. ARIMA was first proposed for journalism research in 1981 (Richard & Wunsch, 1981). A decade later, the first noted study to utilize ARIMA in agenda setting occurred in a study of AIDS in the news and public opinion (Rogers et al. 1991). The study had a key advantage over previous time-series analyses in that the ARIMA test was able to better mathematically model stationary and autocorrelation components. Since that breakthrough, the overwhelming majority of agenda-setting research has relied on ARIMA modeling for time series analyses. This study used ARIMA to mathematically model IVs

and DVs. The results showed how the different time series were related (Gonzenbach, 1992).

Understanding the relationship and lag between the variables' datasets ultimately addressed H1.

Before the ARIMAs were calculated, two additional prerequisite calculations were done to validate the correlation and regression of datasets. First, the dependent variables were assessed with a bivariate correlation against independent variable. Then, if significant relationships existed, an ordinary least squares (OLS) regression test, with the Durbin-Watson statistic, was also calculated.

The Durbin-Watson statistic inside of the OLS regression determines the relationship between dependent and independent variables separated from each other by a given time lag. Provided that the Durbin-Watson assessment could address the autocorrelation of the dependent and independent variables, then the autocorrelation was a violation of typical OLS assumptions. If the bivariate correlations were also significant, and the autocorrelation check was satisfied, the ARIMA model could then be calculated.

Findings

To address H1, the suspected salience transfer from news salience to public salience is investigated. Using the variables constructed from Twitter (DV #1 & IV #1), a two-tailed bivariate correlation shows that the media and public on Twitter are significantly correlated at the .01 level, $r = .753$. Through regression analysis, it is found that media salience continues to predict public salience with an $r^2 = .567$ and Durbin-Watson of .944. The beta coefficients are significant at the .001 level, and the confidence interval for the beta is greater than zero. For the full output, see Figure 2.

Finally, to bolster our case in accepting H1, an autoregressive time-series was fit to the two variables. A one-day lag autoregressive model was successfully fit.¹⁸ The model found media salience to be a significant positive predictor of public salience. The r^2 value remained significant (p

< .05), and all Ljung-Box Q values stayed non-significant ($p < .10$). See Figure 3 for complete results. Given these values, there is confidence that the model was correctly specified and that the model eliminated autocorrelation among residuals.

This evidence is as strong as typically needed to show an agenda-setting effect. But here, an extra step is taken with the investigation the Gallup Poll. It is expected that, if the public truly accepted that Romney was moderate, a significant negative correlation with conservative Republican support would be shown. This is not the case. The bivariate correlation of $r = -.055$, though negative, was not significant ($p = .768$). Additionally, a linear regression analysis yields no significant results. A time-series graph of media salience, public salience and the Gallup Daily Tracking Poll show that the number of conservative Romney supporters stayed relatively dormant (see Figure 4). These three pieces of evidence provide surface-level support for H2.

To investigate H3 the groups of candidate supporters that were extrapolated from Twitter. For Romney, all of his 158 most active supporters were examined.¹⁹ Across their 2,307 Tweets, only one Tweet from one user was found to mention Romney as moderate. For all other candidates, supporters were examined in the same way. Conversely, 10 percent of Gingrich's supporters mentioned Romney as moderate. The highest percentage of mentions was 19 percent by Santorum's supporters. All of the opposing candidates' supporters mentioned the attribute with substantially higher saliences. See Figure 7 for the remaining candidate results. Again surface-level support was given for H3.²⁰

Discussion and Conclusion

Regression and time-series analysis give robust support for H1. The top 44 newspapers correlate with the body of people on Twitter. Figure 4 shows a clear picture of the second-level

agenda-setting effect. Over time, users of Twitter began to associate the attribute of moderateness to the object, Romney. This falls in line with the original second-level agenda-setting study and the majority of the studies that followed it. A one-day time lag is shown.

It also appears that, for certain issues, while the agenda may transfer to public opinion on an aggregate level, certain audiences may resist that agenda. While this data is too sparse for time-series analysis, initial support was given to H2 and H3. It is likely, given inherit biases – whatever they may be – that conservative Romney supporters disregarded this news coverage. These results are contradictory to a typical agenda-setting hypothesis. Figure 4 shows that conservative republicans did not waiver their support for Romney, despite the significant amount of press that surrounded his moderate ideologies. A Pearson correlation check confirms that media salience and public salience have virtually no correlation with the number of Romney’s conservative supporters (see Figure 6).

Cognitive resistances such as motivated reasoning are not new in cognitive psychology. However, this research discerns the difference between persuasion and motivated disregard for a message. Here, given research design, a hypothetical Tweet from a user that said, “I don’t think Romney is a moderate” still would have counted in our measurement of public salience for Romney supporters. This type of behavior was missing in the data. Instead, it appears Romney supporters virtually ignored the attribute, despite the amount of coverage it received. Agenda-setting theory has hung its hat on “not telling people what to think, but what to think about.” Findings appear to show an instance where a selected audience, conservatives, was not discussing what the media was reporting, while the majority of all other people were. As other scholars have done, the focus is drawn on the discussion of an attribute and a measure of its public salience. This is not to be confused as a measure of public opinion. When it is said the

public salience did not transfer, what is essentially being said is that people did not speak of the attribute. One could imagine a possible scenario where Romney supporters ignored the coverage labeling him as moderate. This is different than Romney supporters accepting the agenda but simply disagreeing with it. If that were the case, a transfer of public salience would be expected, but perhaps negative sentiment or affect. This study sampled the most vocal Romney supporters. It is logical to think that one possible behavior for this audience would have been to mention the idea of Romney being moderate but simply refute or discredit it. Our inferences suggest people simply ignored it.

Motivated reasoning appears to successfully predict the outcomes of the news coverage. For those conservative Republicans that thought of Romney as conservative, motivated reasoning may have inhibited their acceptance of labeling Romney as moderate. It is suggested that given the overall salience agenda-setting effect, it is very likely that this audience received the frame from the media. It is also likely that this audience applied strict scrutiny to the message.

Those less inclined to employ motivated reasoning

While not specifically tested in this study, it is also noted that motivated reasoning appears to successfully predict the behavior of liberal and moderate supporters of Romney. Figure 5 shows that each time salience spiked in the media, mild bumps were seen in moderate and conservative support for Romney.²¹ Motivated reasoning posits that users who have little disposition are less likely to refute the information. In looking back, Figure 6 shows that users supporting other candidates did in fact mention the attribute more. It is possible that these groups accounted for some of the moderate and conservative Republican gain that Romney saw.

Why did Gingrich's Framing Effort Fail?

Correlation and causation aside, there are practical public relations implications to this study. A few significant findings are observed. News coverage of ideology doesn't guarantee that all audiences will accept the coverage. As previously noted, this study largely followed the batch of news generated by Gingrich and his attack of Romney. Early coverage of Romney's ideology came in the form of direct quotes from Gingrich, but later in the coverage, the attribute had manifested itself as more common knowledge. Several articles flatly referred to Romney as moderate, without citing Gingrich.²²

Regardless of the source, there is little debate that the initial framing effort by Gingrich was ineffective. Our findings show that, if anything, Gingrich helped Romney gain moderate votes. It was beyond the scope of this project to take-in a more detailed content analysis and discover these trends further. However, both content analysts recognized the lack of descriptive reasons as to why Romney was moderate. News articles mentioning Romney's ideology tended to do so on a vague level.²³ Specific facts as to why Romney was moderate were limited. As best I remember, "Romneycare" and being the former governor of Massachusetts led the reasons. Stances on policies, voting history and other detailed factual information were missing in the newspaper coverage. These arguments appear weak, especially when thinking of the critical audiences that read them. A few quotations from an opposing candidate can be easily refuted. Motivated reasoning suggests that arguments need to be stronger to overcome processing biases.

Is Twitter a valid measurement of public salience?

It is debatable whether an average Republican would share their opinion of a news story on Twitter. Perhaps it is safe to assume that people disinterested in Romney, or politics in general, would not comment on this piece of news. No assumptions are made here on the average person. But in this research design, control was given to ensure that only those who were the

most outspoken were chosen for each candidate. They are, in turn, highly motivated to comment on, defend and plead for their candidate. Face validity checks showed that these users were active supporters, who created discourse and debate for the candidates they supported. Therefore, it is a significant finding to see that these people have chosen to avoid the topic all together. The fact that the source of the frame in the newspapers was quoted as coming from the opposition, Gingrich, could have been enough to discredit the validity of the frame in this audience's mind.

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Figure 1
Twitter Usernames of Top 44 Newspapers by Circulation

ajc	denverpost	nydailynews	SFGate
ArkansasOnline	detnews	nytimes	startelegram
azcentral	DispatchAlerts	OCReggie	StarTribune
baltimoresun	HoustonChron	Oregonian	stltoday
CCTimes	KCStar	orlandosentinel	Suntimes
chicagotribune	latimes	PhillyInquirer	TheBuffaloNews
Cincienquirer	mercnews	PilotNews	theobserver
clevelanddotcom	MiamiHerald	PioneerPress	TribTotalMedia
courierjournal	newsday	reviewjournal	USATODAY
dallas_news	NewYorkPost	sacbee_news	washingtonpost
dallasnews	NJ_News	seattletimes	WSJ

Figure 2 - Media Salience & Public Salience Regression Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.753 ^a	.567	.553	79.874	.944

a. Predictors: (Constant), Media Salience

b. Dependent Variable: Public Salience

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	115.27	18.95		6.083	.000	76.57	153.98
Media Salience	23.066	3.67	.753	6.273	.000	15.56	30.76

a. Dependent Variable: Public Salience

Figure 3
AR Model Statistics

Model	Number of Predictors	Model Fit statistics	Ljung-Box Q(18)		Number of Outliers
		Stationary R-squared	Statistics	DF	
Public Salience-Model_1	1	.623	20.648	17	0

AR Model Parameters

				Estimate	SE	t	Sig.
Public Salience-Model_1	Public Salience	Natural Log	Constant	4.603	.278	16.558	.000
			AR Lag 1	.732	.090	8.142	.000
	Media Salience	No Transformation	Numerator Lag 0	.073	.024	3.007	.004

Figure 4

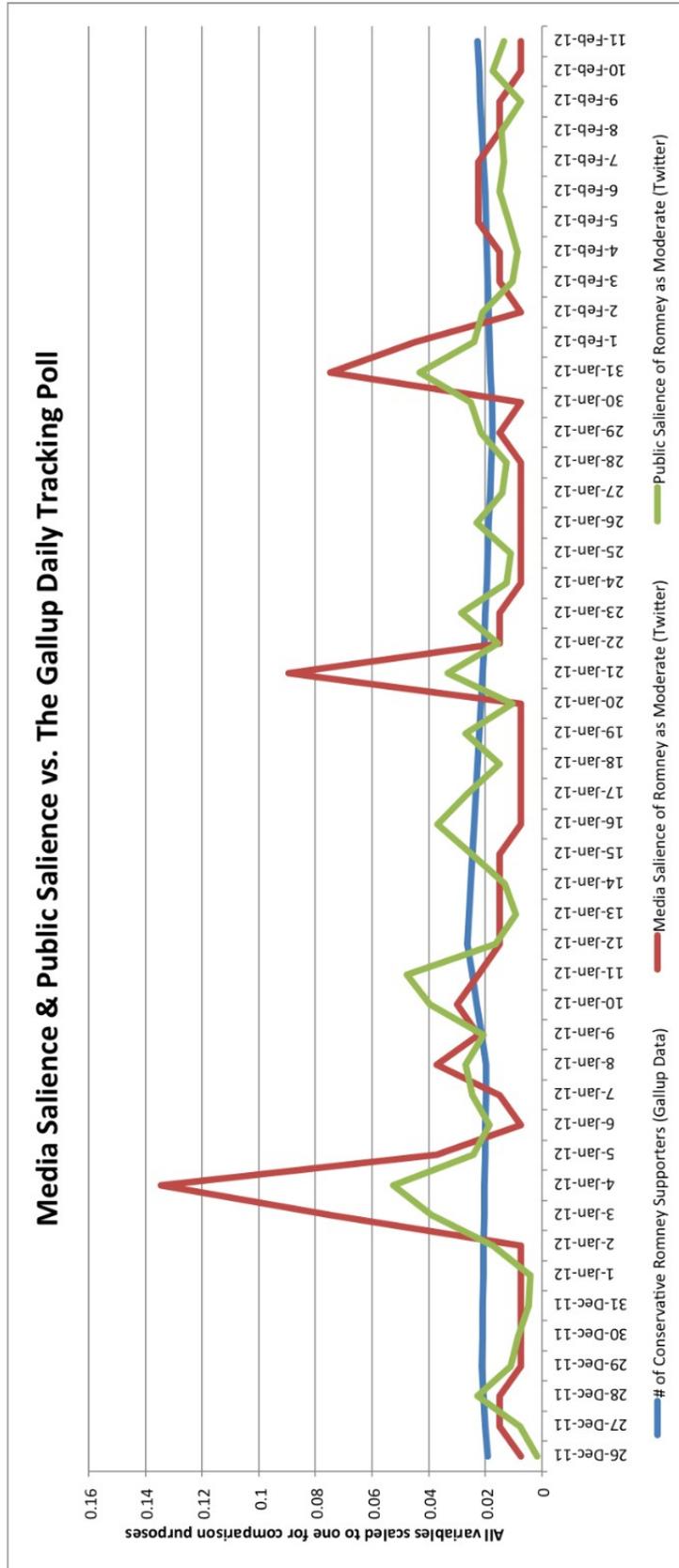


Figure 5

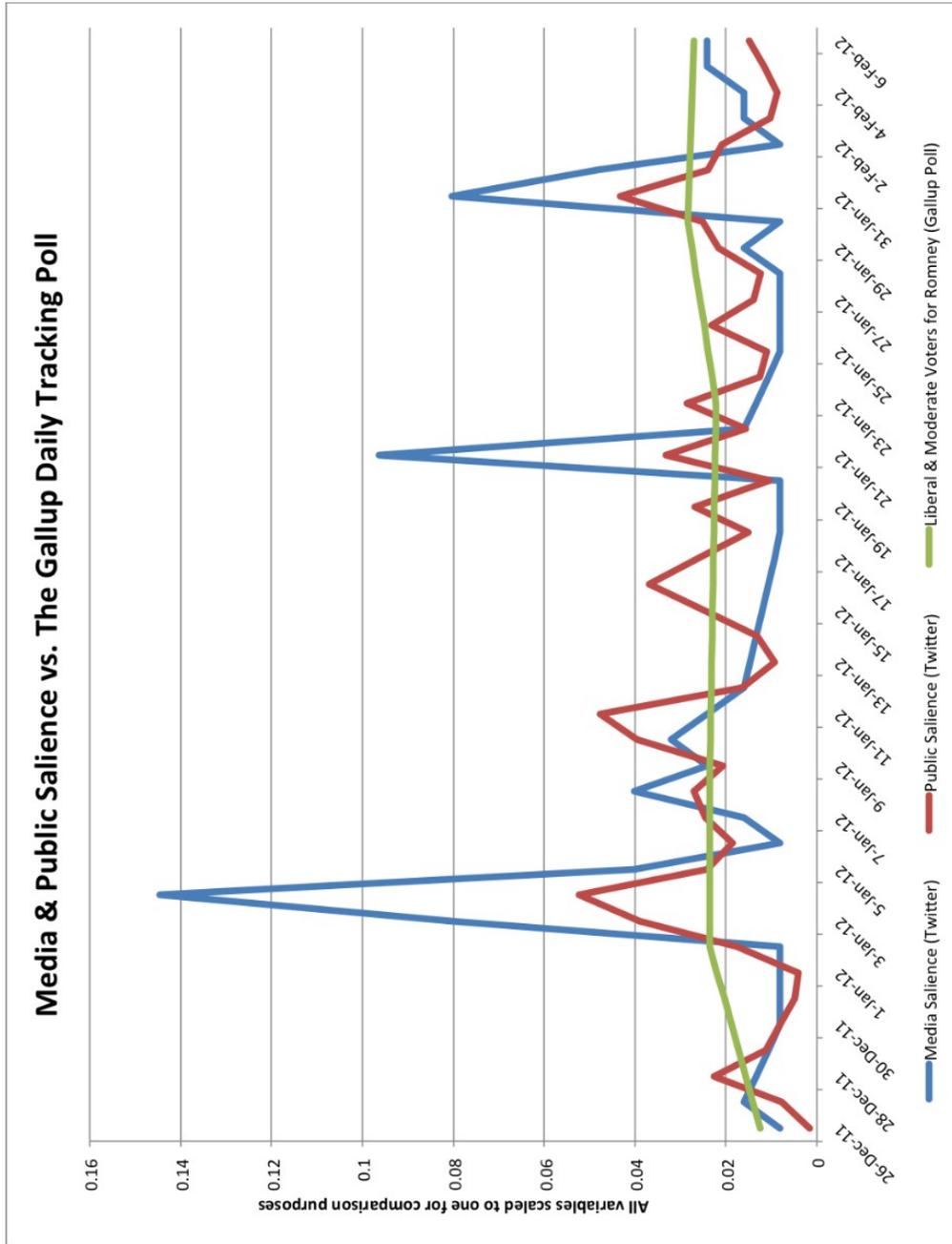


Figure 6

Pearson Bivariate Correlation

		# of Conservatives with Intent to vote for Romney
Media Salience (Twitter)	Pearson Correlation	.101
	Sig. (2-tailed)	.521
	N (Days)	43
Public Salience (Twitter)	Pearson Correlation	.201
	Sig. (2-tailed)	.197
	N (Days)	43

Figure 7

Descriptive Statistics of Candidate's Supporters on Twitter

	Romney	Paul	Perry	Gingrich	Santorum
Number of Supporters	158	371	147	140	53
% of Supporters that identified Romney as Moderate	1.3	3.6	6.1	10	19

Figure 8 – An overview of the variables, and their origins

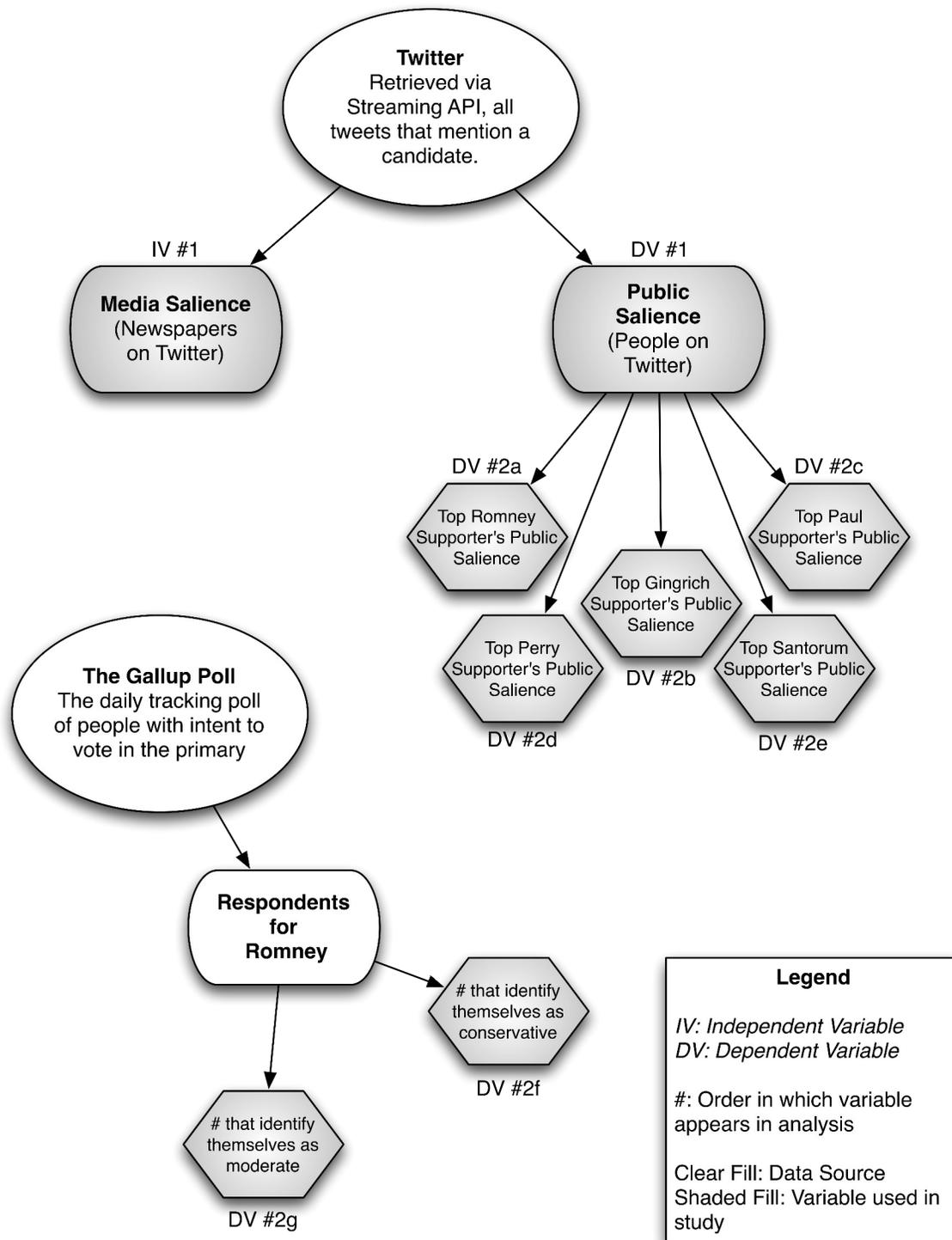
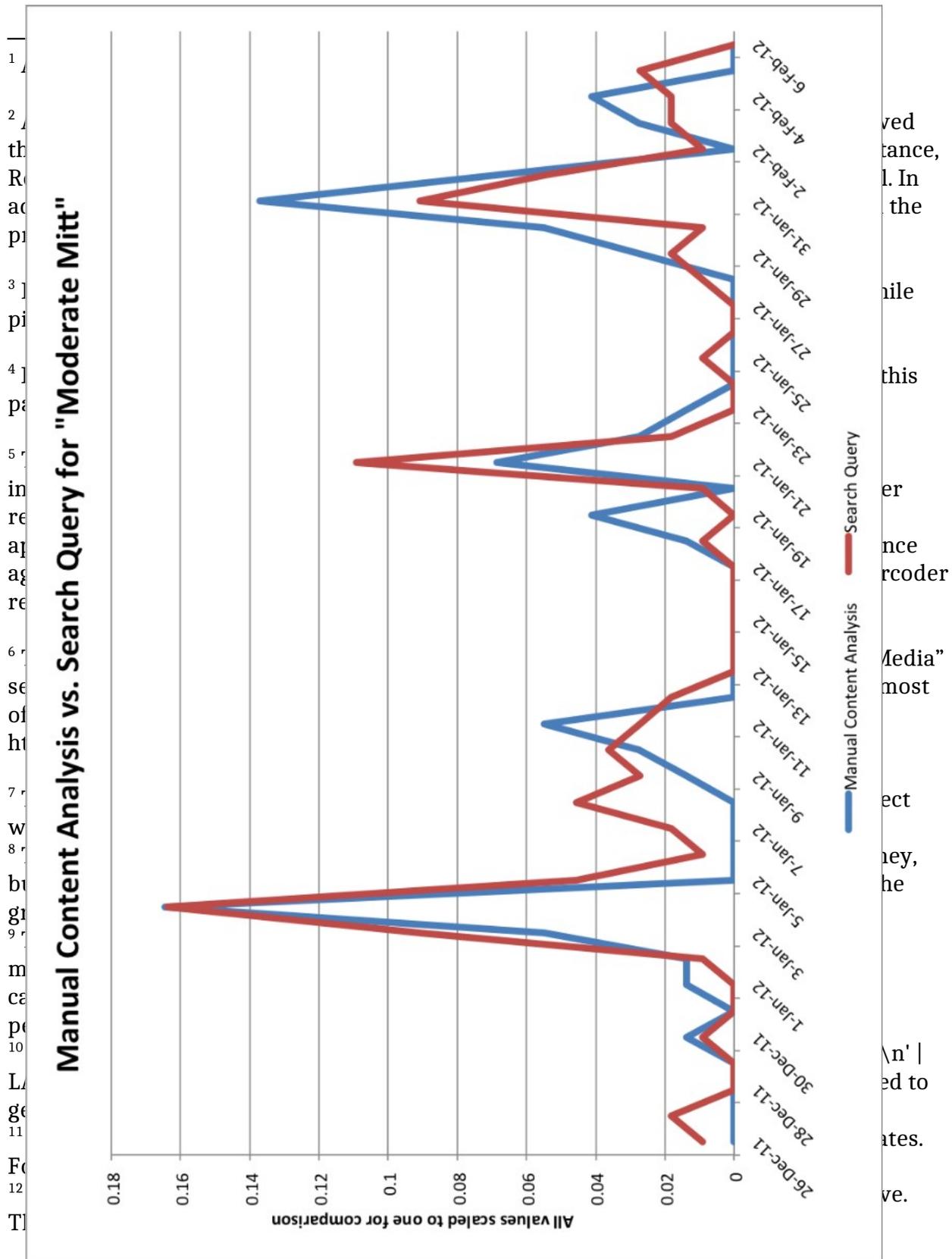


Figure 9



¹³ The probability of a user with a $df = 3$ being labeled incorrectly would therefore be $.22^2$

¹⁴ Because multiple coders were unavailable, this method was substituted for “gold standard” data.

¹⁵ An analysis of overall salience for each candidate – Romney, Gingrich, Paul, Santorum and Perry – determined the most salient candidates on Twitter. Each candidate was fetched as a separate corpus from the Twitter Streaming API. A Tweet was then included into a candidate’s corpus if it mentioned that candidate’s last name, and not the last name of another candidate.

¹⁶ This means, that if a user mentioned Romney three times, and the sentiment scores for each Tweet were four, zero and negative four, the averaged score would be zero, or neutral, for that user.

¹⁷ Because missing values are not tolerated by ARIMA analysis, missing values were linearly interpolated with the SPSS statistic package.

¹⁸ This model is also known as an AR(1) in time-series modeling.

¹⁹ Tweets mentioning the object and attribute were arrived at via the Indri query search method, the same method that was successfully applied to the newspaper content analysis.

²⁰ For H2 and H3, linear regression and time-series analyses were not possible given the granularity of the attribute salience among supporters (IV #2a – 2e) and Gallup Poll data (IV #2f – 2g). Too many “gaps” in the data exist for linear interpolation. This limitation ultimately mars causation, but descriptive statistics and time-series graphs provide non-confounding results.

²¹ Again, the Gallup polling data was too sparse for a sufficient time-series analysis.

²² On Jan. 5, The New York Times ran an article that calls Mitt Romney, “... coming from New Hampshire, where the party is more moderate than Republicans are nationally...” For the full article visit: <http://www.nytimes.com/2012/01/06/us/politics/undeclared-voters-have-some-pull-in-new-hampshire.html>.

²³ On Jan. 7, The New York Times ran a blog post quoting Gingrich and his campaign “Don’t Mass Up New Hampshire.” No policies, issues or other qualifying information is offered as to why Romney is moderate. For the full article visit: <http://thecaucus.blogs.nytimes.com/2012/01/07/gingrich-launches-scathing-attacks-on-romney/?smid=pl-share>.